amateur radio

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

VOL. 49, No. 8 AUGUST 1981

FEATURED IN THIS ISSUE:

- ★ DIRECT CONVERSION RECEIVER FOR 3.5, 5 OR 7 MHz
- ★ MOUNTING A QUAD ANTENNA
- ★ AMATEUR RADIO OPERATORS KEEP AUSTRALIA'S COMMUNICATIONS LINKS OPEN
- ★ REVIEW OF KENWOOD TS530S HF TRANSCEIVER

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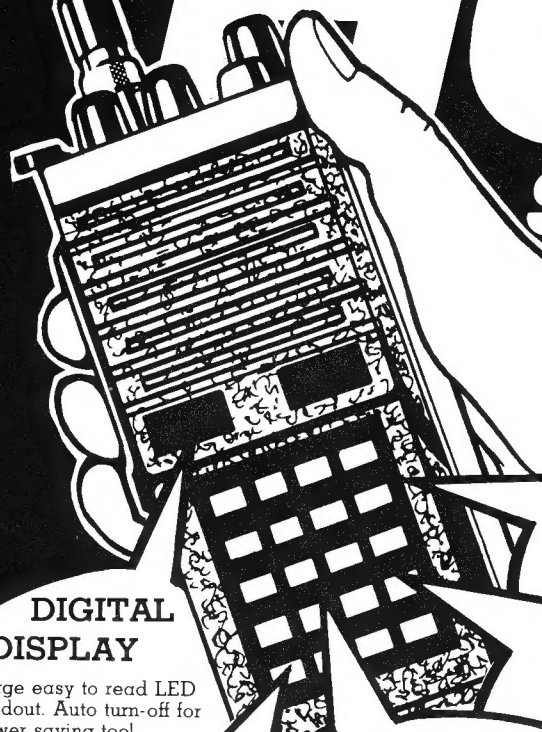

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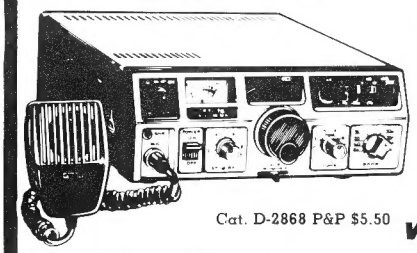

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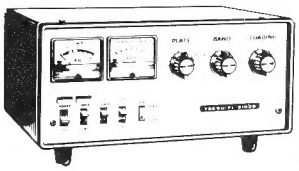

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CONTENTS

ARTICLES

Direct Conversion Receiver for 3.5, 5 or 7 MHz 11

Mounting a Quad Antenna 14

Amateur Radio Operators keep Australia's Communications Links open 16

Telecom Australia Museum, Adelaide 18

Equipment Review — Kenwood TS530S HF Transceiver 24

Homebrewing a Repeater Site 26

ADVERTISERS' INDEX 50

DEPARTMENTS

ALARA 40
AMSAT Australia 20
Around the Trade 41
Awards Column 19
Contests 41
EMC Column 37
Forward Bias 31
Hamads 49
International News 39
Intruder Watch 30
Ionospheric Predictions 36
Letters to the Editor 47
Listening Around 23
Main QSP 4
Novice Notes 22
Obituaries 49
QRK5 33
QRM 33
QSP 13, 31, 34, 48
Silent Keys 49
Spotlight on SWLing 39
Technical Correspondence 48
VHF-UHF — an expanding world 28
VK4 Notes 33
VK2 Mini Bulletin 32
WA Bulletin 34
WIANEWS 5
WICEN 38
You and DX 35

Cover Photo

IN TOUCH WITH THE WORLD

David Boehm VK1UD, a science teacher at Melba High School, conducts the ACT Division's novice classes as well as running the Melba High School Radio Club. The photo shows that Club in action at a lunch-time session.

From the ACT Schools Authority's "Impact".
Photo: Australian Information Service

QSP QSP QSP

GFW

WIA

This term, used by amateurs and other people, on the bands and in the media, is intriguing and makes one curious. Along with other references to the people who work for the WIA, these utterances tend to discredit. Are they justified?

Yes will be the cry from some, but the great silent majority will just float along, listening and reading with bewilderment as to what it's all about, while some perhaps will take the trouble to inquire a little further.

The WIA is composed of a cross-section of the population, who have joined together to protect and advance the amateurs' cause. Every member is eligible to contribute towards the running of the Institute. Even the attendance at a monthly meeting is a way of showing your interest. The workload of administering the Institute's affairs has in the past, and no doubt will in the future, be carried out by a small number of members. These people who volunteered their time, and occasionally their private resources, need the members' assistance. As someone wrote recently, the government you vote into power may not always do what you think it should. So with the Councils of the WIA

On many occasions there are insufficient nominations for the Councils, a sad reflection on our membership. And when these people do serve on behalf of the organisation, many of their decisions are loudly criticised. Perhaps in some cases rightly so, but it is very hard to make the right decision without knowledge of the subject and/or feedback from members, and this is what is continually being asked of your Councillors.

To demonstrate practically, how does a Councillor intelligently make a decision on whether or not the AOCP licence holder should be allowed the operating privilege of using NBVM on the new 10 MHz band? Almost at that point, many stop to ponder, what is NBVM?

So the Councillor studies the subject, or if he is fortunate he finds an exponent of the mode who can enlighten him, and so on. To have knowledge of all facets of Amateur Radio, the understanding of how the machinery of administration works, if possible know the policy of the P. and T. Department of Communications in many amateur matters, and remembering all the time "it's just a hobby", is difficult.

Yet there is always a place for the newest member willing to give his/her time to assist in our WIA activities. And it's here that we are lacking, so how about it? Some of our new members must surely want to assist the organisation, so please come forward.

Challenge and constructive criticism are usually welcomed by WIA Councils and, if possible, acted upon. Laying back, observing the scene, and handing out criticism continually really does not encourage anyone to stay on a Council position or encourage members to come forward and become Councillors. Sometimes the critics are asked, if they know the right way, why don't they take a position on Council; you all know the result. The pay and conditions, by the way, are particularly generous. Hi!! By sheer voluntary effort, Australia has one of the best Amateur Services in the world, was a major factor in the creation and running of the Region 3 organisation, and recognised internationally as a progressive organisation prepared to place people where they may participate to further the Amateur Service.

While the WIA remains a numerically small organisation (and one just cannot see the population growing to better than approximately one amateur per 1000 people) our aims need to be realistic and attainable. To expend our limited manpower on useless or unprofitable aims needs to be constantly monitored.

So, reference the "Great White Father" tag on the WIA, in effect the label is attached to you, the member.

"He who knows only his side of the case, knows little of that."

N. E. PENFOLD VK6NE
VK6 Federal Councillor ■

WIANEWS

JUNE EXECUTIVE MEETING

Your AR Editor, Bruce Bathols VK3UV, has been appointed Executive Vice-Chairman for 1981-82. Both Brenda Edmonds and Tony Tregale attended the June meeting and spoke about their portfolios of Education and EMC respectively.

Advice was received from Secretary of the Australian Broadcasting Tribunal that the terms of reference of the Cable and Subscription Services Inquiry have been expanded to include a more detailed consideration of radiated subscription television services. The Institute is currently investigating these matters, particularly the possibilities of interference problems, prior to making a further formal submission.

The Department of Communications is preparing, for comments, draft standards for the technical equipment and operation of sound and television stations. Parts of the draft have been received and are under examination by FETAC for those areas which could have any effects on the amateur service. Further parts will also be analysed as they arrive.

The Ionospheric Prediction Service held a short ionosphere course in Melbourne on 25th May which was to be attended by Len Poynter, Evan Jarman and Tony Tregale from the WIA. This course was reported as highly technical, most interesting and informative.

INTRUDER WATCH

A letter of 22nd June from the Minister for Communications on the subject of intruder watching is reproduced in this issue.

JOINT MEETING

The postponed June meeting of the DOC/WIA Joint Committee was held on 1st July. The Department gave the WIA a list of those paragraphs in the Handbook which were viewed as not suitable for examination questions. The list will be studied for finality as quickly as possible. Also discussed were log-keeping, which the Institute for many years has desired to be voluntary and reciprocal licensing with certain overseas countries currently under negotiation, particularly with France in relation also to New Caledonia. The one year validity of a 10 w.p.m. morse pass by Novice licensees is another subject under negotiation. A revision of the full and limited licence forms, because stocks were said to be almost exhausted, raised a number of discussion points relating to the fact that the WARC 79 amendments to the Radio Regulations would be due to come into effect from 1st January, 1982. Among the many amendments, other than those to the frequency allocations, is one relating the new designation of emissions. A copy of these designations will be published in AR soon to enable amateurs to familiarise themselves with them. Yet another subject, arising out of the 1981 Federal Convention, was a conditional agreement about the linking of repeaters for specific purposes. Here is the text of DOC letter RB4/4/4 of 1/7/1981:—

"Following a recent submission by the WIA to one of our State offices in which approval was sought to establish a system of VHF/UHF Amateur Repeater Linking, the Department has considered the implications of this proposal as an Australia-wide issue and appropriate policy guidelines have now been issued within the Department.

I am pleased to advise that, subject to the conditions set out below, the Department raises no objection to the linking of VHF/UHF amateur repeaters, for the purposes of improving remote area coverage during:—

(i) Recognised WIA Divisional news broadcasts or re-broadcasts for a period or periods which, in total, do not exceed one hour per week; and

(ii) Departmentally approved WICEN exercises or operations.

The relevant conditions are as follows:—

(a) Repeater linking is to be minimised, and should be employed only for the duration of approved exercises or broadcasts, and only when necessary during WICEN operations. One reason for this condition is to ensure that the disruption to normal operation is limited and does not unfairly restrict non-participating amateur stations in the area.

(b) Initiation of repeater linking should be strictly controlled by the WIA. Any repeater which may be used in a link arrangement should incorporate a secure means of preventing unauthorised use of the link function. Examples of potentially suitable systems include a complex tone or digital coding system, restricted manual access, etc.

In the event of a non-WIA repeater group seeking approval to participate in linking operations during WIA broadcasts, the applicant group is required to provide the Department with evidence of co-ordination with the appropriate WIA State Repeater Committee. Provided this evidence is received, the application will be processed n the same way as one from the WIA.

It should be clearly understood that any approvals to permit repeater linking are issued on the basis that such operation be confined strictly within the enunciated guidelines.

Applications which are in accordance with the principles outlined above should be referred to the State Manager, Regulatory and Licensing, in the applicant group's State.

I would be grateful if you could arrange to disseminate this information to WIA State Administrations and also to provide suitable publicity via the normal means available to the Institute."

EXAMINATION STATISTICS

As promised at the Joint Committee meeting on 25th February the Department has released some broad-based statistics relating to the February 1981 exams. These are interesting.

For the AOCP theory paper 83 per cent of those who applied to sit the exam actually sat. Similar statistics for the other to sit for the exam actually sat. Similar statistics for the other exams were 72 per cent for the AOCP Regulations exam, 57 per cent for morse sending and 62 per cent for morse receiving. 1089 candidates sat for this exam out of 1307 applications. In the AOCP theory exam States below the national average in attendances were VK6, VK5/8 and VK7. The pass rate for this exam was 35 per cent (i.e. 383 passed): Below average pass rates occurred in VK6 (28 per cent), VK4 (30 per cent) and VK2 (32 per cent) — VK5/8 recorded a 51 per cent pass rate. The national average of around 35 per cent has been steady for some years.

In the AOCP Regulations exam the attendance was 72 per cent and the pass rate 65 per cent. VK2 recorded only a 33 per cent pass rate. 190 candidates passed out of 291 who sat. The highest pass rate of 85 per cent was in VK3.

In the AOCP morse sending exam 56 per cent passed (176 passes) out of 309 who sat. Once again VK2 achieved only a 26 per cent pass rate. VK3 led with 86 per cent passes. In the AOCP morse receiving exam only 31 per cent (143 out of 447) recorded a pass. VK2 pass rate was 5 per cent below the national average, VK4 were 3 per cent under and VK5/8 were 9 per cent above.

In the Novice morse sending exam 61 per cent attended and 73 per cent passed (85 out of 115). Here VK6 were 14 per cent under average for attendance but all those who did attend obtained passes, as also occurred in VK7. The pass rate for VK2 was only 48 per cent. In the Novice morse sending exam the attendance figure was 71 per cent and 53 per cent passed (112 out of 208 who sat). VK2 were slightly (8 per cent) under average for the pass rate and VK4 were 19 per cent above.

No other statistics are obtainable. ■

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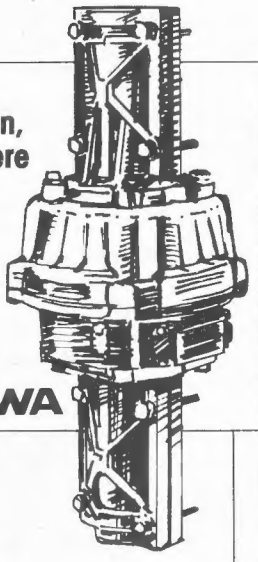

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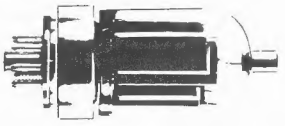

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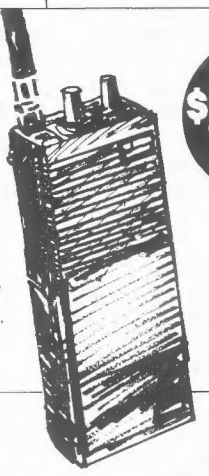

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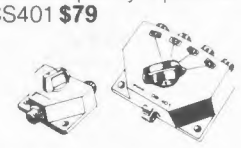

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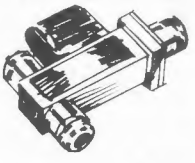

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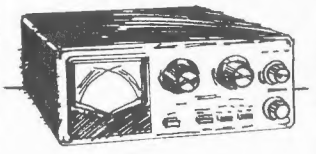

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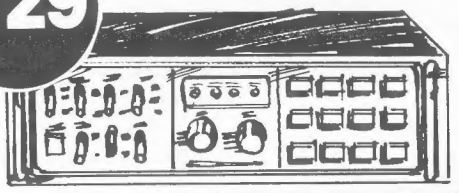

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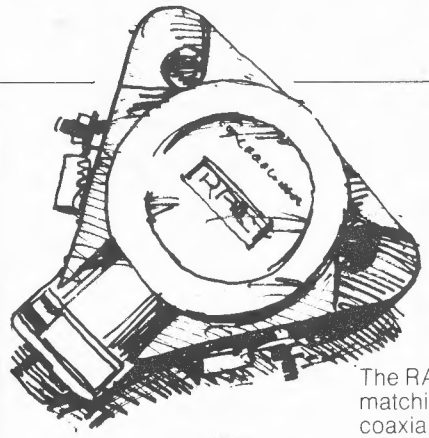

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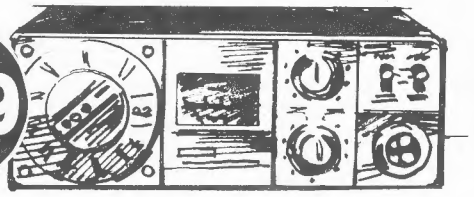

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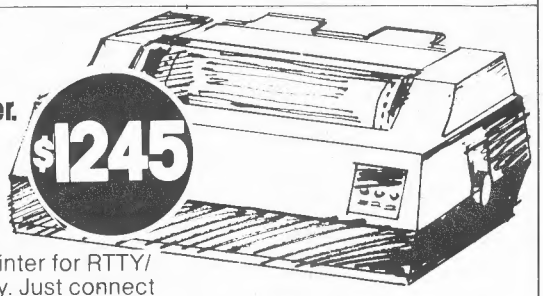

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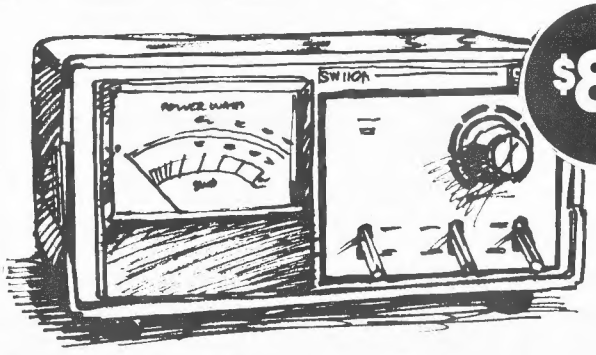

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VK7 Mr. P. Fudge VK7BQ

Staff: Mr. P. B. Dodd VK3CIF, Secretary.
Part-time: Col. C. W. Perry, Mrs. Ann McCurdy.
Mr. Bill Baly (AR Production).

Executive Office: 3/105 Hawthorn Rd., Caulfield North, Vic. 3161. Ph. (03) 528 5962.

Divisional Information (all broadcasts are on Sundays unless otherwise stated).

ACT:
President — Mr. W. R. Maxwell VK1MX
Secretary — Mr. C. T. Vidler VK1KV
Broadcasts— 3570 kHz and 2m Ch. 6 (or 7): 10.00Z.

NSW:
President — Mr. A. D. Tilley VK2BAD
Secretary — Ms. S. J. Brown VK2BSB
Broadcasts— **1100 local.** 1.825, 1.8125 (Ncle), 144.12, 3.595, 7.146, 28.32, 52.12, 52.525, MHz, Rptr. Ch. 6650 Oberon, 6700 Orange, 6750 Gosford, 6800 Lismore, 6850 Wollongong, 7000 Sydney, 8525 Sydney.
1930 local. 52.12, 52.525, 144.12 MHz, Rptr. Ch. 6650 Oberon, 6750 Gosford, 6850 Wollongong, 7000 Sydney, 8525 Sydney, Relays on 160, 80 and 10 metres.
RTTY **0030Z.** 7.045, 14.090, 146.6 MHz. **0130Z.** 21.095 MHz. **0930Z.** 3.545, 146.6 MHz.
Mondays **1930 local.** Newcastle. 3.595 MHz, 10m, Rptr. Ch. 6750 Gosford, 6900 Newcastle.

VIC.:
President — Mr. A. R. Noble VK3BBM
Secretary — Mr. J. D. M. Dowie VK3BVE
Broadcasts— 1840, 3600, 7135 kHz — 53.032 AM, 144.2 USB and 2m Ch. 2 (5) repeater: 10.30 local time.
Gen. Mtg. — 2nd Wed., 20.00.

QLD.:
President — Mr. D. Laurie VK4DT
Secretary — Mr. A. J. Aarsse VK4QA
Broadcasts— 1.825, 3.580, 7.120, 14.342, 21.175, 28.400, Rpt. Ch. 6700 and 7000 Sundays from 0900Z (Sat. 2300 UTC).
Re-broadcasts—Mondays 3.605 from 1930Z, Mondays 80 or 20m RTTY segment from 200Z.

SA:
President — Mr. J. B. Mitchell VK5JM
Secretary — Mr. W. M. Wardrop VK5AWM
Broadcasts— 1820, 3550, 7095, 14175 kHz; 21.195 28.470 and 53.1 MHz, 2m (Ch. 8): 09.00 S.A.T.
Gen. Mtg. — 4th Tuesday, 19.30.

WA:
President — Mr. B. Hedland Thomas VK6OO
Secretary — Mr. F. Parsonage VK6PF
Broadcasts— 3560, 7075, 14100, 14175 kHz. 28.47, 53.1 MHz. 2 metres Ch. 2 Perth, Ch. 6 Wagin. Time 0130Z.
Gen. Mtg. — 3rd Tuesday.

TAS.:
President — Mr. I. F. Ling VK7XL
Secretary — Mr. P. Clark VK7PC
Broadcasts— 7130 (SSB) kHz with relays on 6 and 2m Ch. 2 (S), Ch. 8 (N), Ch. 3 (NW), 09.30 EST.

NT:
President — Mr. T. A. Hine VK8NTA
Vice-Pres. — Barry Burns VK8DI
Secretary — Robert Milliken VK8NRM
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VK2 — 14 Atchison St., Crows Nest, 2065 (Ph. (02) 43 5795 Tues & Thurs 9.45-13.45h).
P.O. Box 123, St. Leonards, NSW 2065.
VK3 — 412 Brunswick St., Fitzroy, 3065 (Ph. (03) 417 3535 Weekdays 10.00-15.00h).
VK4 — G.P.O. Box 638, Brisbane, 4001.
VK5 — G.P.O. Box 1234, Adelaide, 5001 — HQ at West Thebarton Rd., Thebarton.
VK6 — G.P.O. Box N1002, Perth, 6001.
VK7 — P.O. Box 1010, Launceston, 7250.
VK8 — (incl. with VK5), Darwin AR Club, P.O. Box 37317, Winnellie, N.T., 5789.

Slow morse transmissions — most week-day evenings about 09.30Z onwards around 3550 kHz.

VK QSL BUREAUX
The following is the official list of VK QSL Bureaux, all are inwards and outwards unless otherwise stated.

VK1 — QSL Officer, G.P.O. Box 46, Canberra, A.C.T. 2600.

VK2 — QSL Bureau, C/- Westlakes R.C., Box 73, Teralba, 2284.

VK3 — Inwards QSL Bureau, Mrs. B. Gray VK3BYK, 1 Amery Street, Ashburton, Vic. 3147.

VK3 — Outwards QSL Bureau, Mr. R. R. Prowse VK3XY, 83 Brewer Road, Bentleigh, Vic. 3204.

VK4 — QSL Officer, G.P.O. Box 638, Brisbane, Qld., 4001

VK5 — QSL Bureau, Mr. Ray Dobson VK5DI, 16 Howden Road, Fulham, S.A. 5024.

VK6 — QSL Bureau, Mr. J. Rumble VK6RU, G.P.O. Box F319, Perth, W.A. 6001.

VK7 — QSL Bureau, G.P.O. Box 371D, Hobart, Tas. 7001.

VK8 — QSL Bureau, C/- VK8HA, P.O. Box 1418, Darwin, N.T. 5794.

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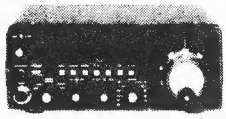
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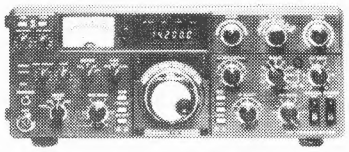

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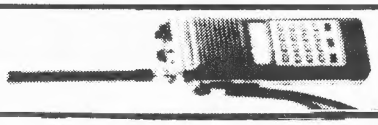

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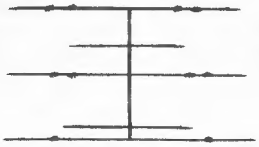

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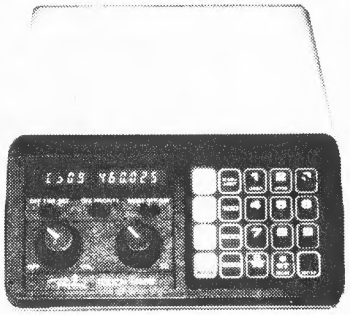

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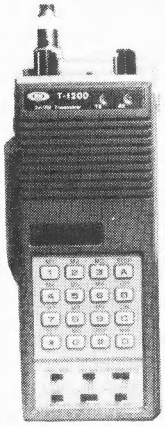

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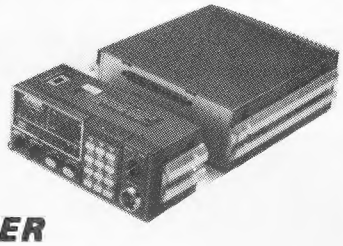

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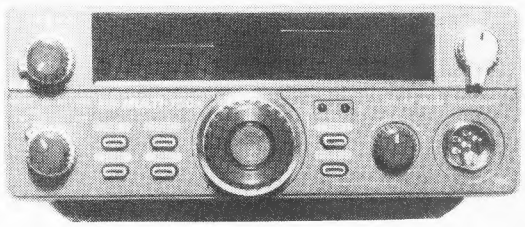

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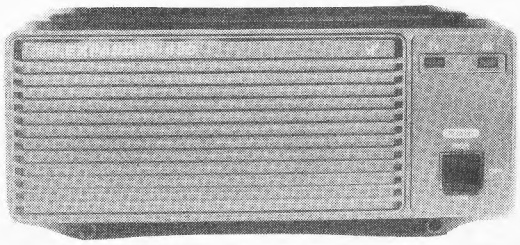

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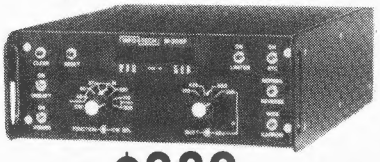

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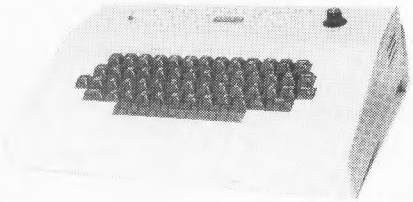

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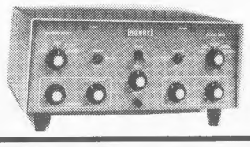

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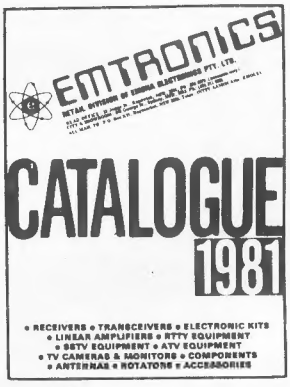
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HISTORY

Direct conversion receivers were popular in the 20s and were known then as regenerative receivers. The first tube acted as RF amplifier, local oscillator and detector, with reception of AM and CW signals being possible.

Regenerative receivers have been revived from time to time, and have provided many prospective amateurs with their first really "hot" receiver. in the late 60s the DC receiver re-emerged as a viable alternative to the complex superhets in general use. The cause of the DC comeback is not clear, but perhaps may be attributed to the growth in popularity of QRP/portable operation and the availability of some very useful ICs.

PERFORMANCE

DC receivers have some features which are worth considering. Some of these are:—

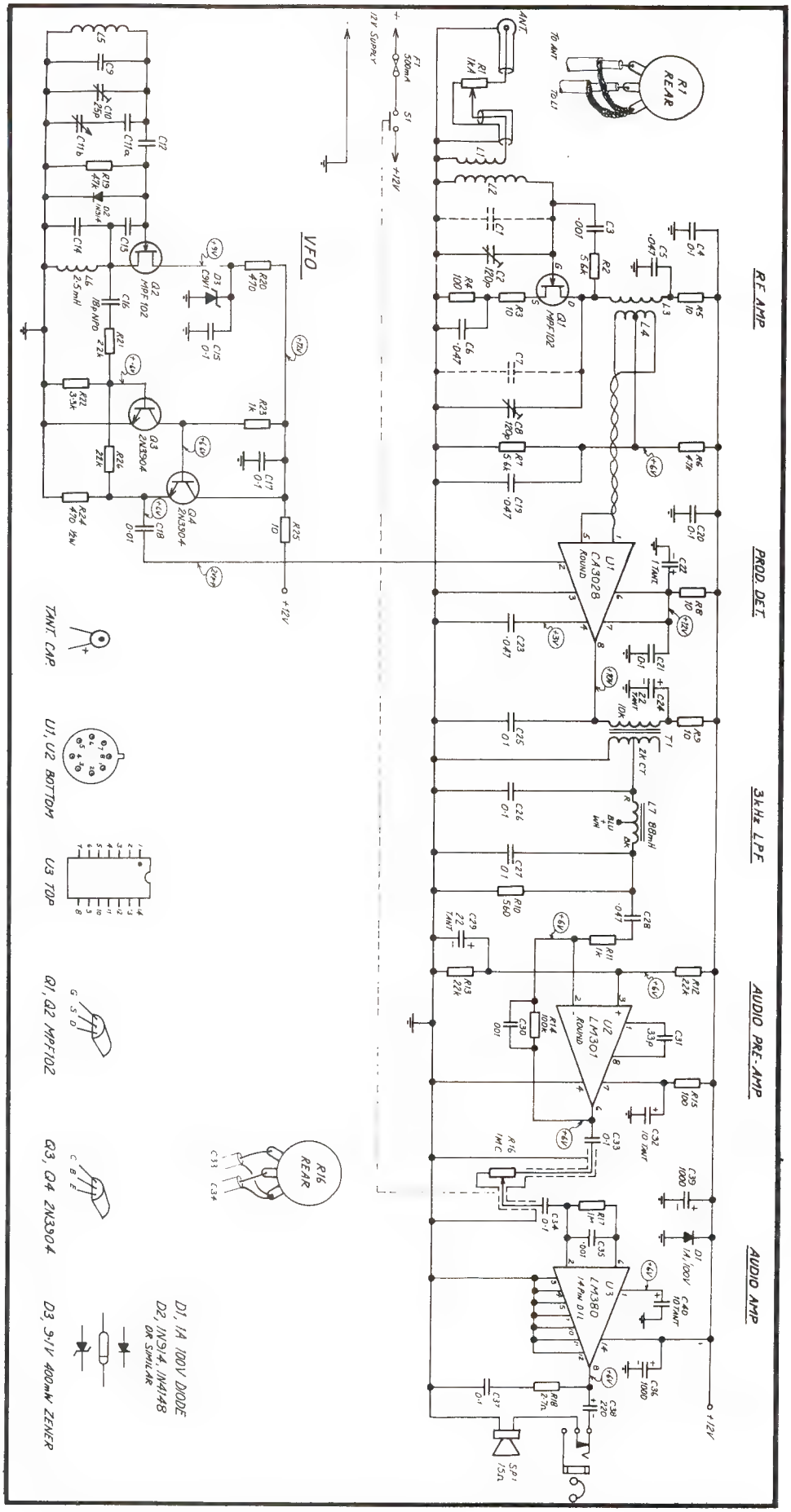
- Simplicity of design.
- Freedom from spurious responses.
- Low power consumption.
- Signals have a crystal-clear "presence" which are less affected by impulse noise (no ringing in selective circuits).

The receiver to be described is intended as a companion to a QRP transmitter, or for use on its own. All the components used are readily available in Melbourne at present, and cost is estimated at $50.

Frequency coverage is 3.5 to 3.7 or 5.0 to 5.5 or 7.0 to 7.3 MHz. The 5.0 to 5.5 range is intended as a tunable IF for use with converters. Each band extends about 20 kHz above and below these limits. Three receivers were built and yielded the following figures: Power consumption is 100 mA from a 12V supply (will operate down to 9V). Sensitivity is 0.4 microvolts for 10 dB S + N : N. Although no exact measurements have been made, immunity to unwanted strong signals is high, and compares well with receivers of far greater cost and complexity.

CIRCUIT DESCRIPTION

The RF amplifier is a tuned input, tuned output circuit employing an MPF102 N-channel FET at Q1. Coupling from input to output is minimised by using toroidal inductors. The amplifier is stabilised by using source degeneration developed across R3, and negative feedback via C3-R2.



The product detector employs the popular CA3028 at U1. This IC consists of two transistors with their emitters tied together and returned to ground via a third transistor (log-tailed pair). The bases of the two top transistors have the signal applied in push-pull (pins 1 and 5), and VFO is applied to the base of the bottom transistor.

The VFO frequency is the same as that of the incoming signal for SSB and AM, and offset by perhaps 1 kHz for CW signals. For example:—

An incoming CW signal fl on 7020 kHz.
VFO f2 on 7019 kHz.

The mixing products will be:—
fl + f2 = 14039 kHz and
fl — f2 = 1 kHz.

The 14039 kHz component is removed by C25, which leaves the 1 kHz component to negotiate the 3 kHz low-pass filter, matched to the output of U1 by T1. (The author tried and rejected several product detectors, including the ring hot-carrier diode and dual-gate MOSFET circuits, as they suffered too easily from cross-modulation and AM demodulation square-law effects.)

Selectivity is achieved by using a 3 kHz low-pass filter, C26, L7, C27. 3 kHz is about the right amount of bandwidth for adequate adjacent channel rejection for SSB, and a good "feel" for CW.

Audio pre-amplification is provided by U2, an LM301, which is a cheap low noise amplifier. The gain is determined by the ratio of R14 : R11.

$$\text{i.e. NdB} = \log \frac{R14}{R11}$$

20 log 100
40 dB.

R14 has a capacitor, C30, across it in order to give a further roll-off with increasing audio frequency. Low-frequency roll-off is provided by C28 in series with R11. So it is possible to receive AM and DSB signals without excessive burble. Sufficient audio power to drive speaker or headphones is provided by the popular LM380 at U3.

The VFO circuit employs the time-proven Colpitts oscillator. A toroidal core was first used for L5, but this was rejected in view of the poor inductance/temperature characteristic. So L5 is a conventional air-cored coil using a poly former. In the interest of frequency stability, the fixed capacitors must be either styroseal (poly), mica, or NPO types as indicated in the coil table. Q3 and Q4 buffer the oscillator and 2 to 6 volts peak to peak is obtained at the emitter of Q4. Incidentally, a frequency counter may be connected at this point in order to directly indicate the receive frequency.

CONSTRUCTION

The bulk of components are accommodated upon a double-sided circuit board. The only holes necessary are those for the mounting screws, coils L5 and L7, and the variable capacitor. All components are soldered directly on to the copper tracks as shown. All copper should remain on the reverse side of the Board. This method combines construction simplicity with ease of trouble shooting should it be necessary.

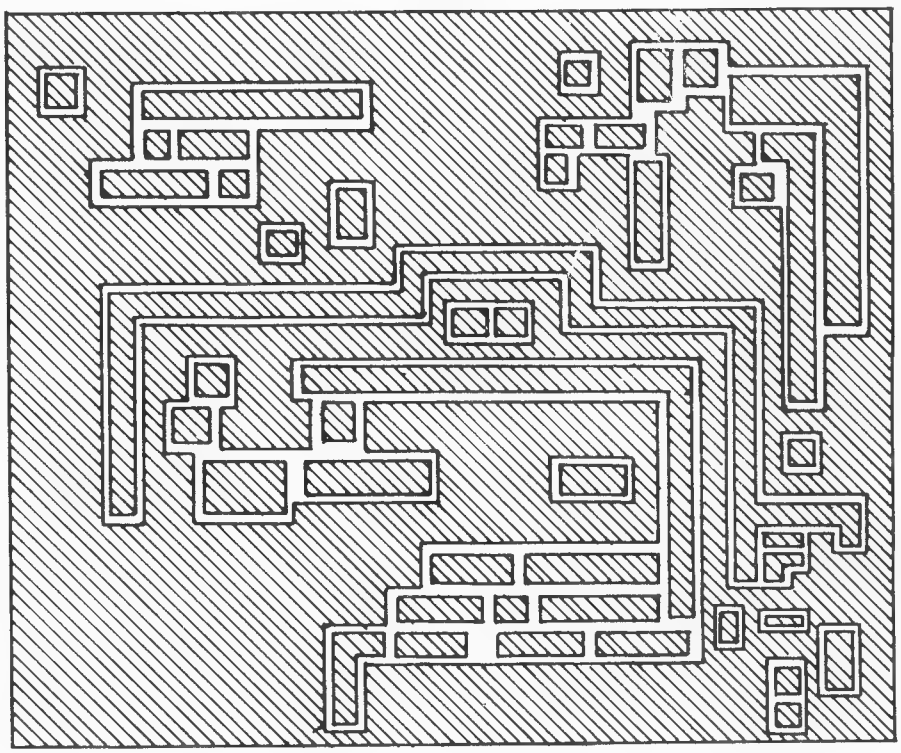
L2/L3 (7μH) example.

L5 (4μH) example.

Coil Table.

Band	L1	L2/L3	L4	L5	C1/C7	C9	C11a	C12	C13/14
3.5-3.7 MHz.	5turns 22B&S on grnd end of L2.	10μH:18turns 22B&S on Neosid 4327R/1/F25 toroidal core.	5turns ct on grnd end of L3.	6μH: 18turns 20B&S on Jabel 3/4" poly former. (3/4F).	1.0pF NPO cer.	56pF NPO.	120pF NPO.	470pF styro.	1000pF styro.
5.0-5.5 MHz.	4turns 22B&S on grnd end of L2.	7μH: 14turns 22B&S on Neosid 4327R/1/F25 toroidal core.	3turns ct on grnd end of L3.	4μH: 15½turns 18B&S on Jabel 3/4" poly former.	56pF NPO.	15pF NPO.	150pF NPO.	390pF styro.	680pF styro.
7.0-7.3 MHz.	4turns 22B&S on grnd end of L2.	5μH: 11turns 22B&S on Neosid 4327R/1/F25 toroidal core.	3turns ct on grnd end of L3.	3μH: 12½turns 18B&S on Jabel 3/4" poly former.	Not used.	39pF NPO.	33pF NPO.	220pF styro.	470pF styro.

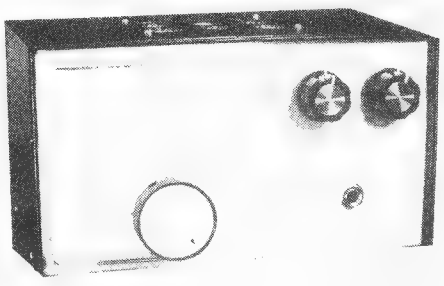
Coil Table.



PC Board Layout.

The dial in the photo is a Jabel JB6/1N with 6 : 1 ratio, although the dial used may be left to the individual constructor. A smaller dial would allow greater miniaturisation, but poorer frequency resolution.

Ideally, an insulated flexible coupler should be placed between the dial drive and the shaft of the tuning capacitor. In this receiver there was simply no room.



With careful alignment of the shaft and drive, no problems should occur. However, it is necessary to solder a piece of copper braid between the capacitor shaft and the frame of the ball drive. The reason for this is not immediately obvious. The balls in the drive unit provide a noisy alternative path to ground for C11b, which results in a "gritty" change instead of a smooth change.

If a mains power supply is used, it should not be mounted in the case along with the receiver, as stray magnetic flux from the power transformer will induce hum into T1 and L6. common-mode hum can sometimes occur with this type of receiver. This problem can usually be cured by using a floating supply (mains earth on the supply but neither side of the supply rails grounded).

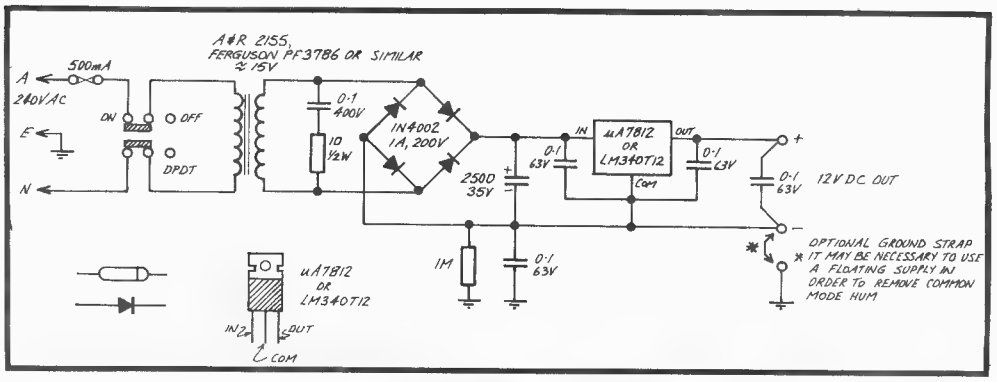
The speaker may be mounted inside the receiver case provided that at least 8 cm clearance is allowed between the speaker magnet and the circuit board components, otherwise howling may occur.

ALIGNMENT

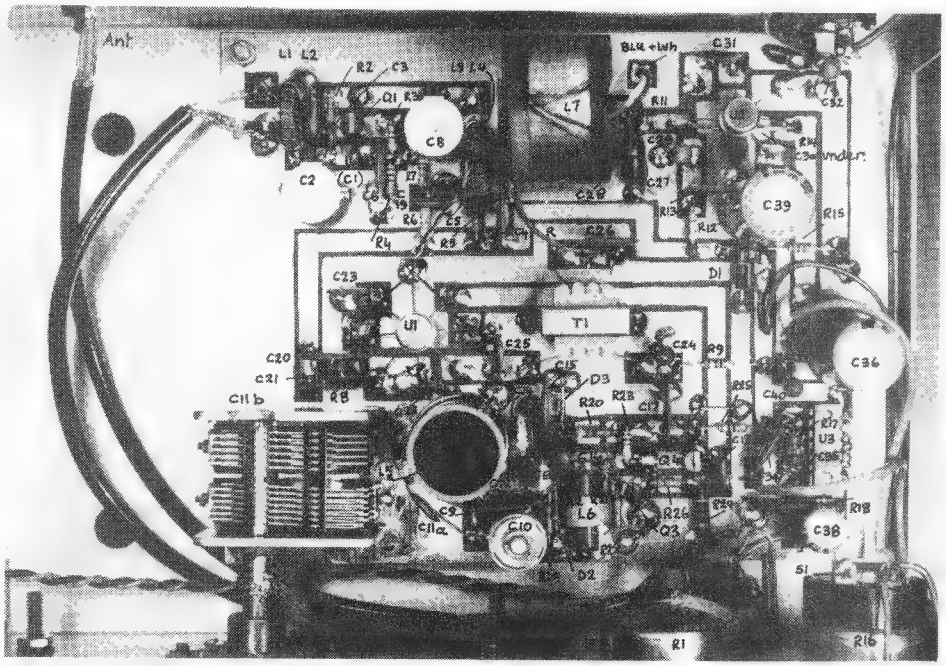
It is first necessary to set the VFO tuning range. C10 is used for this. Output frequency may be monitored at the emitter of Q4. A counter, BC221, or another receiver (loosely coupled) may be used to determine VFO frequency. If greater tuning range is required, the value of C11a may be increased, and that of C9 decreased accordingly. It should be possible to set the band limits with a bit to spare. With this done, an antenna (this is the exciting part) is connected to the input, and a weak signal tuned in. C2 and C8 are peaked for maximum signal strength. Some compromise in the setting of these two may be necessary in order to obtain gain flatness across the band.

The capacitor actually used at C11b may be left to the resources of the individual, as variable capacitors can be difficult to obtain these days. The capacitor in the prototype is a 100 + 200 pF one available from several sources here. Another suitable capacitor is the Roblan type RMG1-100 pF. The toroids, coil formers and variable capacitor may be obtained from J. H. Magrath of Melbourne, or Watkin Wynne of Sydney. All other components should be available from well-stocked electronics shops.

Should anyone attempting this project have difficulty in obtaining any of the necessary parts (particularly the 88 mH coil), please write and I shall obtain them for you. All photographs were provided by Nick Kane.



A suitable power supply.



Component locations.

REFERENCES

Solid State Design — ARRL.
Radio Communication Handbook, RSGB.

■

QSP

1980 JOTA

Little Jottings from the 1980 JOTA Report — VK0KC was operated at Mawson Station. They fired up the rig early on 18th October only to discover they were in the middle of a radio blackout which lasted nearly 10 hours. Eventual tally was about 56. Thanks to F6EPY permission was given by the PTT for Scouts to speak on the microphone during JOTA but, alas, only on the official station F6JAM. The Victoria Scout Group on Malta were very active using 9H4H for special permission had been given by the authorities for Scouts to speak on the air. Scout constructed masts and towers abounded but the Tikipunga Scouts (Whangarei, N.Z.) took the easy way out and used a mobile crane with a 25m boom to hold up the end of their aerial. ZL2WA made an Oscar 7 contact with VK4ZRQ to the delight of everyone present. The Army Signals Division has now agreed to provide the necessary equipment to set up permanent Scout stations in each of the 19 State HQs. All newspapers, radio and TV gave JOTA good coverage (including front page photographs in some newspapers) in Portugal SM7LHK should be qualified for the Guiness Book of Records —230 Scouts, 1 operator and 1 station in a wardrobe 1.5 metres square. Many stations in Switzerland organised other radio-scouting activities over JOTA weekend — fox hunting, kit building, technical discussions, etc. One group operating G3RKN and G3GZG let the Scouts tune in stations they wanted to work and the operator then called them. This was a highly successful strategy — "you find them, we'll work them" — creating great interest to the Scouts. ■

CABLE TV SYSTEM

According to Ham Radio, March 1981, the expansion of cable TV systems poses a potential threat to Amateur Radio operators. Although they are supposed to be closed (non-radiating) systems, many use the VHF spectrum from 50 to above 225 MHz for their multi-channel content and when systems leak (an all-too-common occurrence due to corrosion, loose connectors or cable damage) interference results. Cases of cable-system interference on amateur repeater inputs have been documented. Amateur interference to cable reception also occurs with poorly shielded continuous tuning convertors in use. ■

EMDRC HONOURS WARC REPS.

At the April General Meeting the EMDRC paid tribute to David Wardlaw VK3ADW and Michael Owen VK3KI for their selfless services to amateur radio and in particular their participation at WARC and their many visits and lectures to the club, by presenting them with Life Membership of the EMDRC.—EMDRC Radio Bulletin, May 1981. ■

IYDB

1981, The International Year of the Disabled Person. Elizabeth Community College, close to Adelaide, have set up a working party to co-ordinate College activities for IYDB. One such activity planned is an Amateur Radio display manned by and designed for disabled people on the 8th and 9th of July. The College envisages that the display will be followed with a course of instruction leading to licences for disabled people and possibly the formation of a club for them. Further details from VK5AIM. ■

Mounting a Quad Antenna

J. A. Gazard VK5JG
39 Glenhuntly Street, Woodville South, SA 5011

A quad antenna for 21 or 28 MHz is cheap and easy to construct but it is a different story when it comes to providing a structure to mount and rotate it about 30 ft. in the air.

This structure must be able to withstand the hurricane that occurs, say once in 10 years, and the gales that occur two or three times a year.

It must be possible to climb to the antenna so that the quad can be erected, adjusted and repaired if necessary. To satisfy these conditions a steel tower such as a windmill tower or a solid guyed mast with foot pegs would seem to be necessary, but these two structures are expensive, may be unsightly when erected in a back garden, and often offend neighbours. Also the guys of a mast hinder the erection of the quad.

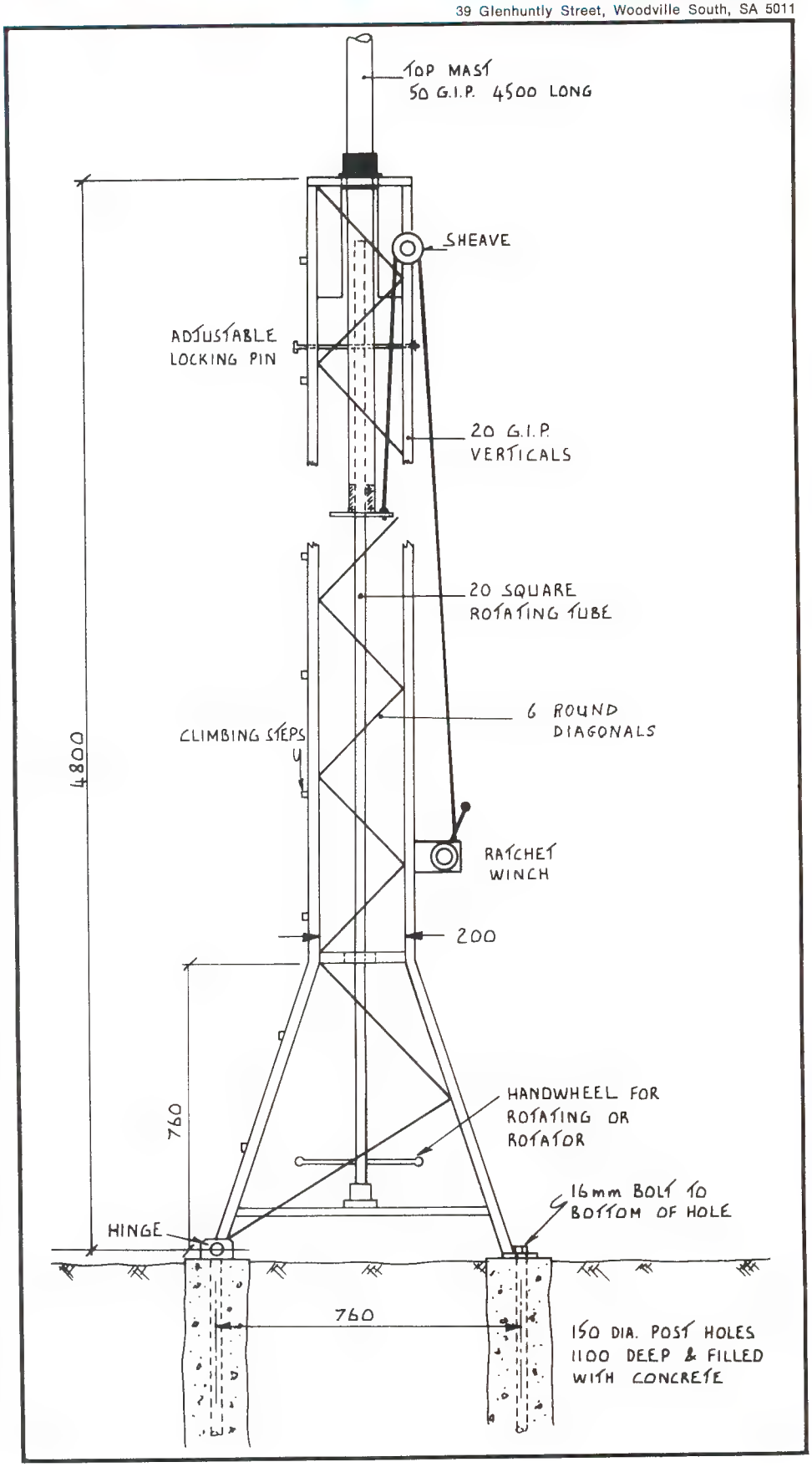
If the structure could be easily and quickly lowered when the quad was not in use the hazard of high winds would be avoided and a much lighter, neater and cheaper mast without guys could be used. The telescopic mast shown in the sketch has this feature. The lower section is of lattice construction and strong enough to withstand any wind when the top section is lowered. The top section of 2 inch galvanized waterpipe is not strong enough to withstand gales when raised to the full height but when telescoped into the bottom section does not come under stress. It can be raised or lowered in less than 30 seconds. The rotating mechanism is not affected by raising or lowering and can be used with the mast at any height. No guys are required.

The bottom lattice section can be climbed for fitting and adjusting the quad which is done with the top mast lowered.

Construction of the tower will not be difficult for anyone with a home workshop that contains an arc welder. The vertical members of the lattice consist of four ¾ inch waterpipes set at 8 inch centres and the diagonals are of ¼ inch round steel except where the verticals spread out at the bottom. Here the diagonals are of ½ inch round. On one side of the diagonals are replaced by horizontal ½ inch rounds which form the steps by which the mast is climbed.

The top mast can be 2 inch galvanized waterpipe or similar tubing. The top mast slides in a close fitting out tube 18 inches long, welded into the top of the lattice tower. If a suitable close fitting tube cannot be obtained a box made of four angle irons can be used.

The top mast hangs on a 3/16 inch diameter winch wire which passes over a sheave near the top of the lattice mast and is wound on a ratchet winch drum attached to the mast about four feet above ground.



In all four masts constructed here the winches had a drum made from 1¼ inch pipe with large washers as end plates. One washer had six ratchet teeth cut with hacksaw and file to make a strong holding ratchet.

Rotating of the mast is done by a ¾ inch square 16g tube which passes through a square hole in the bottom of the pipe mast and telescopes into it when the mast is lowered. A hand wheel or motorized rotator can be used at ground level.

The writer is prepared to supply additional information to anyone proposing to build a mast. This information can be supplied by letter, on the air on 7 MHz SSB, or to a local visitor. ■

MOUNTING A QUAD ANTENNA

EDITOR'S NOTE: Some of the following points may be covered by the additional information which VK5JG offers to supply. However, on the information contained in the article alone, the following comments or suggestions are made jointly by the draftsman and the technical editor:

(a) As indicated, a locking pin is essential as a safety device and to relieve winch cable load.

(b) The top sleeve bearing might better be two sleeves about 1 metre apart.

(c) There should be a thrust bearing at the bottom of the rotating mast.

(d) The hold-down bolts should not be smaller than 16 mm (⅝ inch).

(e) *Most important,* the concrete footings as shown are too small, and should be at least 450 mm (18 inch) diameter.

(f) The structure could be further improved if the base were increased to about 1 metre square and the tower uniformly tapered, i.e. the corner pipes left straight, not bent. ■

Victorian Division N-E Zone at Wodonga

A meeting of the North-Eastern Zone of the WIA (Vic. Division) was held in Wodonga on 4th April, 1981.

The venue was the Wodonga Continuing Education Centre. Some of those present were caught on film. These were (see photo, read from left to right) Graeme VK3VAC/ZGL, Rodney VK3UG, Norm (no call), Ross VK2DGY, Nigel VK3YVQ, Bob VK3AJN (hiding behind sign), Ross VK3KAN, Arthur VK3NOI, Rodney VK3CBO, Ron (no call), Evan VK3VVE and Brian (no call). Andrew VK3XBH was present but not pictured.

Many items were discussed at the meeting which was well attended. These included a report on the repeater VK3RNE after work done on it by VK3AFN/VK2DGY involving cleaning and adjustment of the cavities. Discussion also touched on the subject of increased power for the repeater to increase the coverage area. A report was made on the progress of the Mt. Wombat repeater (Shepparton) and all seems to be going to plan there. Presented to those at the meeting was a multi-page listing of all those hams, Limited, Novice and Full Calls) in the North-Eastern Zone. There are still copies of this very useful sheet, which can be obtained from VK3KAH, VK3AFN or VK2DGY by sending a SASE and 50 cents to cover printing costs. They are each five pages long, categorized by town/area. A must to any operator, new or old, in the Zone. Discussion was then centred on the next meeting, which will be held in Shepparton on the 19th July. The venue is the Mechanics Institute Hall, Wyndham Street, commencing at 1 p.m.

For those interested, there will be a tour through Radio Australia, Shepparton, at 11 a.m. on that day. If you wish to join the tour, be at the front gates of RA no later than 10.50 a.m. Talk-in facilities will be via channel 40 (146.0 MHz). Also at the meeting Gordon VK3BWG will give a talk and demonstration of various types of radio teletype equipment in use by amateur opertors. This is your Zone, so please give it your support by attending.

After the meeting there was (as usual) a series of fox-hunts on VHF. Shown in the photo is the fox held by Brian VK3AFN. It uses an IGL exciter followed by a 2W amp. The dipole antenna can be seen here, but seems to become invisible when you look for it. Two operators looked at it for minutes and couldn't see it when hidden in a tree.

The results of the hunts were:—

Hunt 1: 1st, VK3XBH and Co.; 2nd, Brian (no call); 3rd, 3YVQ/2DGY; 4th, 3UG/3KAH.

Hunt 2: 1st, 3UG/3KAH; 2nd, 3YVQ/2DGY; 3rd, 3XBH and Co.; 4th, Brian.

Hunt 3: 1st, 3UG/3KAH; 2nd, Brian (no call); 3rd, 3YVQ/2DGY; 4th, not found.

(Sophisticated equipment not necessary . . . the winners were using a vertical whip and Yaesu FT-480R!!)

We (the Committee and interested members of the Zone) would all like to see you

at one of our meetings, so why not set aside Sundy, 19th July, to come and meet us all and try your hand at the activities, see and hear the things of interest at the meeting and let us know you're interested. Join in and enjoy. See you at Shepparton.

Yours faithfully,

Ross Wheeler VK2DGY.
Secretary/Treasurer N.-E. Zone. ■

Amateur Radio Operators keep Australia's Communications Links Open

Sam Voron VK2BVS
2 Griffith Ave., East Roseville, NSW 2069
Ph. (02) 407 1066 before 9 p.m.

Australian amateur radio operators set up a national 24 hour radio network over a 5 day period to provide the public with a means of sending messages during the breakdown of the public telephone network which has resulted from industrial action.

By Wednesday, 10th June, it was clear that Australia's communication was not improving. NSW WICEN had already set up a daily preparedness network and was in constant briefings with developments and intentions of the third party traffic net.

Even though our new third party regulations allow any amateur at any time to make the facilities of our hobby available to the public, a message was sent to the Department of Communications in Canberra via Dave VK1DN (telephone communications between Sydney and Canberra not being available), advising that I would be "investigating the immediate setting up of amateur radio sations at easily accessible locations in Sydney and other centres for the handling of health and welfare messages for the general public".

Thursday, 11th June, was spent with Simeon VK2AVD investigating suitable locations for the setting up of what we termed "public access" amateur radio stations. That evening a message back from Canberra on 80 metres from Mr. Ross Ramsay, DOC in Canberra, stating that "the Department had no objection to amateur radio operators setting up a communications network such as that provided that no financial gain was involved and no commercial messages were passed".

It was decided to set up this network by Friday afternoon. Friday morning saw the construction of an 80, 40, 20 and 15 metre inverted vee antenna system with one coax fed line and the construction of a large display board.

Meanwhile that morning we learned that fear of the political union situation and red tape meant that the Sydney Town Hall and railway locations fell through. We approached the local Willoughby Municipal Council and within half an hour all red tape had been cut. By this time it was 4 p.m. and an amateur station was appearing near the footpath in the middle of Chatswood shopping centre in front of the Town Hall. The Council provided two large tables, ten chairs and a 240 volt extension cord from the second floor of their office

The main amateur radio operating and co-ordinating point for the Sydney general public, outside the Willoughby Municipal Offices. The display board was made with the future in mind.

VK2AVD setting up for the 24-hour TPTN Sydney operation.

block, running under the door gap (thus maintaining their security). The antenna system was raised to the top of the flag pole.

Australian Associated Press, who fed the radio, TV and newspapers nationwide, was contacted, as were individual TV stations. Throughout that evening Sydney television channels 0/28, 7, 9 and 10 were broadcasting how amateur radio enthusiasts across Australia were setting up a national communications networks for the passing of urgent messages, and that all you had to do was catch a train to Chatswood railway station and the amateurs would do the rest. The first to carry the story was channel 10 as their number one item on their 6 p.m. national news. Public response was incredible, jamming the switchboard and causing the station to repeat the information again in the middle and at the end of their news coverage.

Over the 5 days some 130 people filled out amateur radiograms. The public kept the original as a memento of their visit and the carbon copy was filed in one of three folders — messages to be sent, messages sent awaiting reply, or into the messages completed folder. The message form used consisted of an introduction, a WICEN message format which the third party net had been experimenting with, and a disclaimer.

The introduction read "Amateur radio operators are hobbyists developing their personal skills in the many facets of radio communications, electronic experimentation, world-wide friendship on radio, public service, amateur television, facsimile, radio teletype, slow scan world-wide two-way TV, orbiting amateur radio satellites, and morse code, as well as voice long distance communications.

"Your involvement is helping Australian radio enthusiasts develop their nationwide and international message handling skills.

"When the public needs help amateur radio operators are there."

The disclaimer read "This message is handled free of charges by a licensed amateur radio operator. As such, messages are handled solely for the pleasure of operating, no compensation direct or indirect, paid or promised, can be accepted by a station owner. For the same reason neither eventual delivery nor accuracy of message can be guaranteed."

The outdoor station was surrounded by other display boards containing photos and front covers of Amateur Radio magazine. This served to highlight the diversity of the amateur radio enthusiast to both the visiting media and the public.

An extensive network was operating on 3570 kHz on the Friday night, with messages for any part of Australia, plus one for Canada being picked up by someone in the net. With operators in a sleeping blanket out in the open on the concrete pavement, the radio link was faithfully maintained, with the TS820 and the FL2100Z going strong night and day.

Message Category	Personally Presented Messages to VK2BVS	Telephoned Messages to VK2UK	Category Totals
Notification of death and/or funeral arrangement	30	10	40
Notification of imminent death	4	—	4
Medical condition inquiries (patients in hospital)	33	8	41
General health inquiries	7	4	11
Urgent medical information	1	—	1
Transport (Arrival/Departure information)	37	10	47
Births notification	6	—	6
Birthday, Anniversary congratulations	3	—	3
Messages for hospitals	4	—	4
Mesages for nursing home	1	—	1
Messages for marriage and family centre	1	—	1
Messages for Army	1	—	1
Welfare and information messages not listed	9	1	10
Messages totalled	137	33	170

Prepared for a third night sleeping in a cold winter's environment, Sunday evening appeared to forecast rain. Dave VK2BPU saved the situation by providing a large tent for the station an its operators.

Radio stations kept transmitting regular announcements of what the amateurs were doing, press reports started to appear in the newspapers. Radio talk-back programmes wanted interviews, journalists looking for interesting stories, television stations returned for follow-ups.

In other parts of Australia, amateurs were also taking the initiative in providing a communications link for their community. Public access amateur stations were set up at the local car park in Ouse, Tasmania, by VK7KJ and his local team, as well as by the Illawarra Amateur Radio Club at a local hall in Wollongong.

Other amateurs began making their phone numbers available for transmission over their local radio stations. These numbers were also publicised through the AAP media network.

I was initially against the idea of a phone number for Sydney, fearing an excess of low precedance messages would swamp our system, however Ed VK2UK, as a test Sydney number, showed that the telephoned messages were just as urgent as those personally brought to the station. To cope with the demand Colin VK2VUA, Peter VK2AGB, John VK2VSF and Brian VK2VLC also made their numbers available for public media broadcast in Sydney.

The many net control operators and participants did an excellent job. I am afraid to mention some of the ones that stand out in my mind because I am sure I will miss out on some of the other less familiar call signs who also did a fantastic job.

During the day 7060 kHz was used with links to 21150 kHz. VK8OD, with the Northern Australia third party traffic net which was formed a week or two previously, allowed easy integration with the expanded 24-hour third party network.

Considering that most amateurs don't have a message format, and most probably never handled a message before, it's hard to believe just how well the whole operation proceeded. I feel sure that this situation where the community needed, welcomed and used our help, has left all who participated with a tremendous sense of pride in our amateur radio service.

Congratulations were received from the passing public on the streets of Sydney and from the Council administrators. Amateur radio has come into its own, we did a job that no other could do, and I will never forget the on-air teamwork and the response of the public to a job well carried out and done.

Following is a breakdown on the type of messages sent over the five day period ending Wednesday, 17th June at 4 p.m.

Many more messages were relayed for other stations but these are not included above. Send in your traffic break-up so a more complete picture is built up. More experiences could be imparted about the life and death messages which arrived via a courier, the message delivered by no less than five police officers, or the thankful family from Perth who caught a plane to Sydney and spoke with their father before he died. Summing up, I would like to look to the future. There were many distressed people we could not help because we have no international third party agreements with specific countries.

I think some amateurs may have felt, "third party traffic, that's nice, now what can we do with it?". I think that question has suddenly been answered in a most dramatic and unexpected way.

Since the end of the 24-hour activity, the third party traffic net has returned to its three times daily schedule, 0245Z and 0700Z on 21150 kHz, VK8OD Darwin net control, and 1125Z tuning call, 1130Z traffic list on 3570 kHz ± QRM. Message forms are available at 10 per 25 cents from the author's address. A roster is being drawn up to maintain the net on a seven day per week schedule. If you have one day or more free per week to help on 80m, contact Sam VK2BVS; if you can help on 15m, contact Bill VK8OD. ■

Telecom Australia Museum — Adelaide

For many years interested staff of Telecom Australia have been collecting material with historic interest. However, it was not until 1962 that, on the initiative of Mr. V. F. Reeves, then Assistant Director Engineering, the collection was organized into a museum display.

The Museum was originally located in Engineering Building, 42 Franklin Street, Adelaide. In order to make it more accessible for public viewing, it was transferred to Electra House in March 1976.

The Electra House ground floor display is the first stage of a large project which in the next few years will result in the whole building being taken up with displays of historical items and archival materials.

The present displays include such items as:—

Radio: Crystal sets, early spark coils, early battery receivers, horn speakers, etc., as well as an experimental transmitter used by an Adelaide operator to switch on the lights of a house in New York.

Telephone: Early hand-made instruments to current models, including the 1904 desk telephone from Central Exchange.

Telegraph: 1860 magnetic instruments as used on first SA line, items from Overland Telegraph line to Darwin of 1872, and a portrait (1886) of the founder of telegraphs in South Australia.

Kevern Rowe VK5AKE recently visited the Museum and reported it for the SA Journal of April 1981.

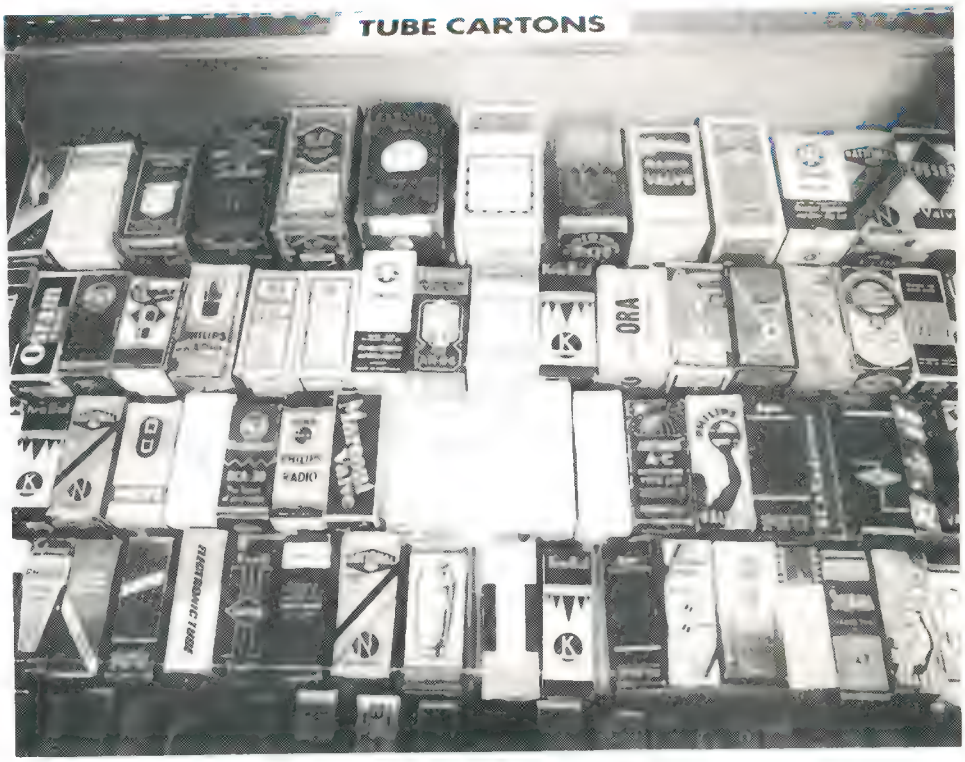
Kevern writes: "The displays have all been beautifully restored to as near original appearance as possible and are very well presented in glass cases. Unfortunately, our request to "fire up" a home-brew amateur transmitter from the 1920s fell on deaf ears, a pity but quite understandable.

"A fascinating range of early radio equipment is on display. There are "Cat's Whisker" crystal receiving sets, valved TRF receivers purchased from large city department stores as kit sets and assembled at home, to mention a few.

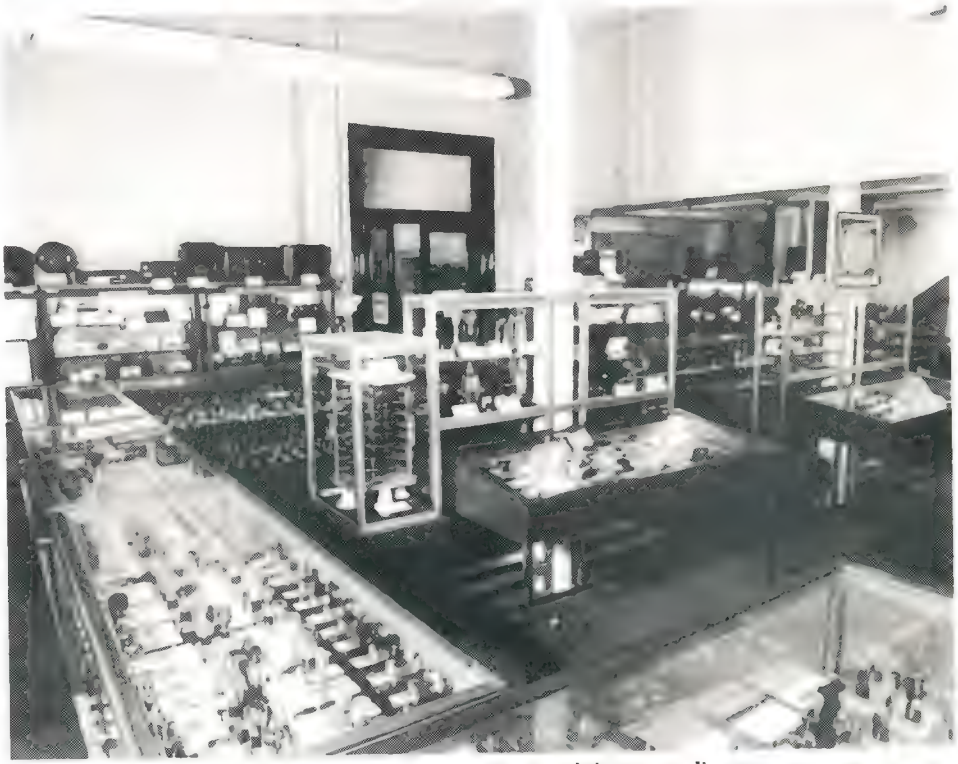
"The extensive range of early amateur home-brew rigs indicate that visual appearance of the finished product was as important as how effectively the gear actually worked. Highly polished wood bases and plywood front panels, acid etched to give a polished marble appearance, were noted. Great attention to detail was also paid to mechanical aspects of building, with first class workmanship quite apparent.

"Many of the items have cards attached giving some historical information, but the Museum staff (all volunteers) have a wealth of interesting commentary which add to the enjoyment of a visit."

So next time you are in Adelaide, pop into Electra House in King William Street (next to the GPO), for a look at the "good old days". The Museum is open from 10.30 a.m. to 3.30 p.m. on weekdays. ■



Early receiving tube cartons on display.



A selection of valves and a transmitting capacitor.

AWARDS COLUMN

Bill Verrall VK5WV
7 Lilac Avenue, Flinders Park, SA 5025

Here are details of a new 10/10 award which is available from the Cairns Bird-Wing Chapter of 10/10 International. This Chapter commenced on 10th May, 1981, and at the time of writing, almost 100 certificates have been issued to Australian and overseas amateurs and 13 of the first upgrade to VIP have been issued to VKs.

I quote verbatum from the publicity sheet which is included with this award:—

CAIRNS BIRD-WING CHAPTER OF THE 10-X INTERNATIONAL

"Hi, greetings from Cairns Far North Queensland, the home of the Bird-Wing Butterfly (Ornithoptera priamus). A rare species found flitting in and around the tropical rain forest of north Queensland, with wings of emerald green trimmed with black and approximately 6 in. from wing tip to wing tip. This butterfly will only breed on a vine-like plant called a Dutchman's Pipe, which grows in the rain forest.

The city of Cairns is located at 16° 55 south, 145° 47 east. A tropical area of Australia with a rainfall of approximately 80 to 100 inches or 2,000 to 2,800 mm annually, and a temperature range of approximately 34°C to 12°C or 94°F to 54°F. The mountain ranges to the west are covered with a blanket of lush green softwood rain forest, while to the east the Pacific Ocean and the Great Barrier Reef with its myriads of coloured fish and living corals are a truly tropical wonderland.

The requirements for this 10-X award are first the station applying must be a member of the 10-X International.

For basic 15 points, including 1 Chapter member or two honorary Chapter members. For VIP 100 points, including two Chapter members or three honorary Chapter members. For Dutchman's Pipe 200 points, including three chapter members or two first State/country. For Protector 300 points, including five Charter members and three first State/country.

Points as follows: Basic 2, DX 1, FS/FC 1, HC 2, VIP 3, Dutchman's Piper 4, Protector 5.

Application must include name, QTH, 10-X number, certificate number and any other upgrades of each station worked.

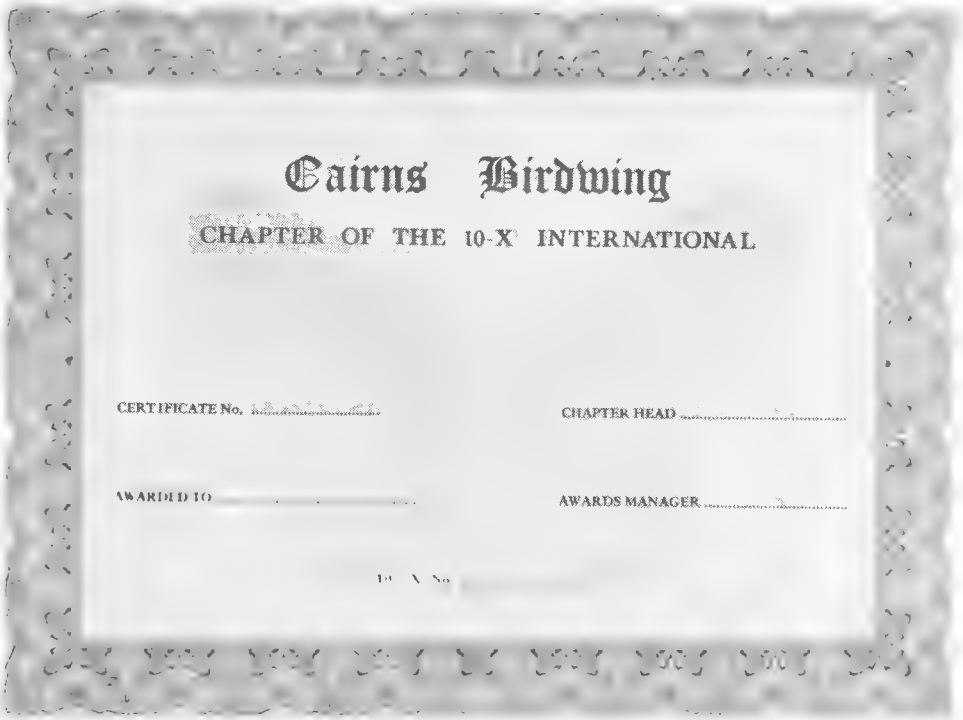
COST

Australian: Basic $2, VIP $1, Dutchman's Pipe $1, Protector $2.

DX: Basic $3, VIP $1, Dutchman's Pipe $1, Protector $3.

Please supply your full name, QTH, call sign and 10-X number on your application. Also the cost for prompt processing and return of your certificate or upgrades.

Chapter Head: Ivan E. Dammash VK4NOK, 16 Irene Street, Cairns, Queensland 4870, Australia.



All applications for awards to: Denis Williams VK4VBZ, PO Box 2, North Cairns, Queensland 4870, Australia.

Thank you for joining the Bird-Wing Chapter"

DESCRIPTION

This award is printed in four colours on white parchment. The background is on gold with the butterfly in varying shades of light green and grey and the surround in dark green with all printing in black. It measures 275 mm x 210 mm.

In the October 1980 issue of AR I featured another 10/10 award with upgrades which is available from the Welcome Stranger 10-X Chapter from Ballarat, Victoria. You require 250 points, including five Chapter members, to qualify for their VIP award, which is shown in the illustration.

This award is a multi-colour jumbo card print of a street scene of Sovereign Hill, Ballarat, showing the Cobb & Co. coach. The printing is in gold. This award measures 300 mm x 210 mm.

The same issue of AR featured an illustration of the City of Melbourne 10/10 Chapter basic award on the front cover and the rules for this award were included in the issue.

The City of Melbourne 10-X Chapter has recently announced a rule change in the points scoring system. The basic award requirement remains unchanged, i.e. 15 points, including 1C or 2HM or 2HC. The first endorsement (Captain Cook) requirement is 100 points, including 2C or 2FS, second endorsement (Moomba) 200 points (previously 250), including 3C or 5FS, and VIP 300 points (previously 500), including 5C or 10FS. All other details remain unchanged as included in the October 1980 issue.

I will feature descriptions and illustrations of the City of Melbourne 10-X upgrades in a future column.

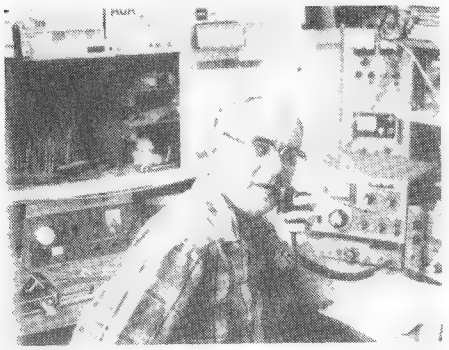
Also I have not forgotten the Power Valley 10-X Chapter. I will include descriptions of their awards in the October issue.

Good hunting. ■

UNDU AWARD

Applications for this award must be accompanied by $US12 instead of $US6, from 31/7/1981, because, according to Sr. Jose Gonzalez of the Philippine Amateur Radio Association, the costs of airmail rates, handling and printing costs have more than doubled. Cabled information of 19th June. ■

AMSAT AUSTRALIA



R. C. Arnold VK3ZBB

With the indulgence of our Editor you may have a new portrait to grace this edition of my notes.

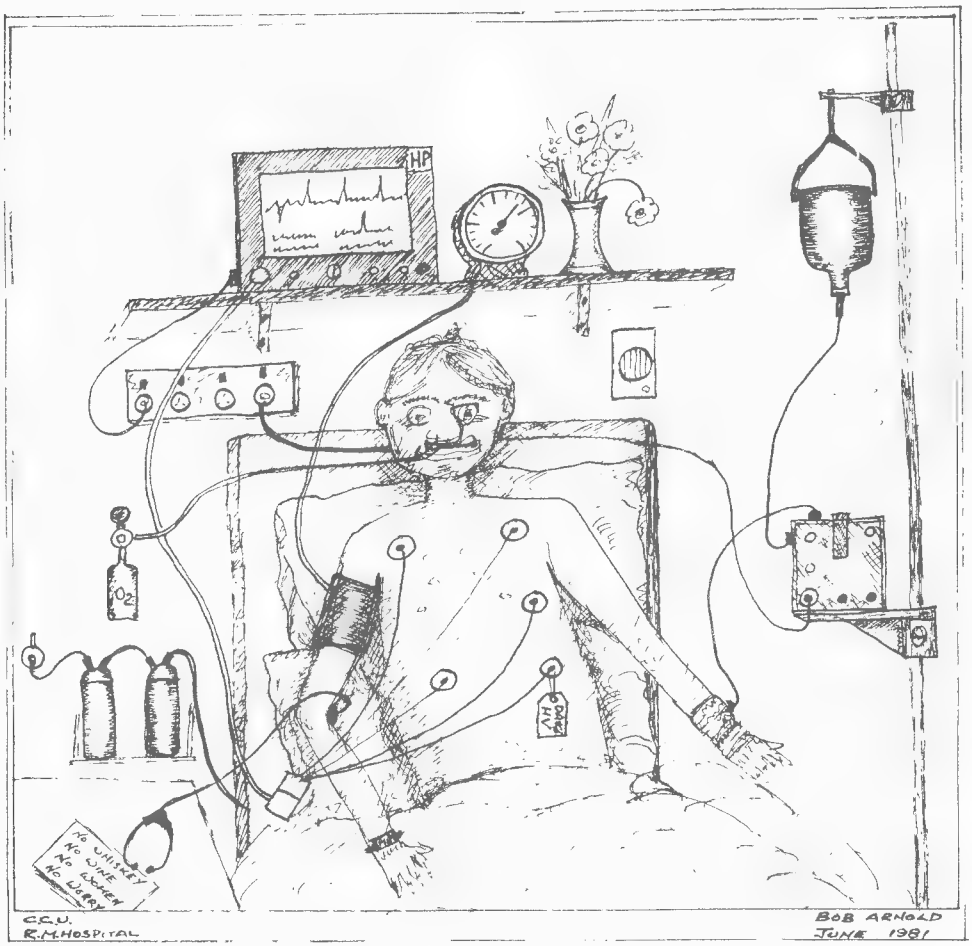
It graphically shows the situation I was in at the end of May after suffering a coronary attack and being rushed to the Royal Melbourne Hospital, where devoted care put me back on the rails again.

I have tried to illustrate some of the remarkable electronic aids available to assist medical staff to diagnose and treat disease, including electro-cardiographs which can be monitored from a distance and set to sound an alarm if any deviation from a predetermined pattern is recorded.

A most interesting device which could easily be adapted for amateur use (and nearly was) took the form of a five-point ECG recorder, about the size of a Penguin book, which was strapped to my waist, thus permitting a continuous record to be kept of my reaction to various activities such as walking, washing and eating. The standard magnetic tape was changed each 24 hours when it was analysed on a computer.

I would particularly like to thank the many amateur friends who sent good wishes to me via a number of routes. It was good therapy to realise that so many cared. Special thanks to our Federal President Peter Wolfenden, Charlie VK3ACR, Neil VK3ANK, Andy VK3YQX and XYL, who visited me in hospital.

Pleased to say I am making good progress and should be back to a normal routine by the time these notes are published.



I was delighted to receive a letter from Barry Abley VK3YXK, of the Electronics Department, Geelong Technical School. Barry's boys at the school, in the 10 and 11 age group have, from limited information, constructed a scale model of UOSAT which is due to be launched in September. It is a very creditable effort and I hope the photograph will reproduce sufficiently clearly for readers to make their own assessment.

The boys already monitor OSCARS 7 and 8 and will be looking for UOSAT and Phase III when they are activated.

The Geelong Technical School is also active in the transmission of television signals in the 70 cm band under the call sign VK3YTG. I am aware of similar activity at Footscray Technical School through Bill VK3JT, and at St. Bernard's College through Dick VK3ARR. If other schools are interested I shall be pleased to include an article in these notes.

I have been unable to monitor and work the satellites during June, but I have some disturbing news from Charlie VK3ACR. It appears that when working OSCAR 7 on orbit 30063 at 0906Z, 11th June, the signal suddenly cut off and did not re-appear whilst the satellite was in sight. In fact, no contact has been made with AO7 since that time and it is highly probable that Charlie experienced its demise. There is just a possibility that the satellite moved into shadow which, of course, would cut off power to the transponder and beacon as the batteries have already failed. If this is so, AO7 should be operating by the end of July, but as the AMSAT experts do not share this opinion it is a pretty vain hope. What a wonderful satellite it has been — over 30,000 orbits in 6½ years of opera-

tion with virtually unrestricted availability.

PREDICTIONS

In the hope that AO7 may return to operational status I am giving my predictions for both satellites:—

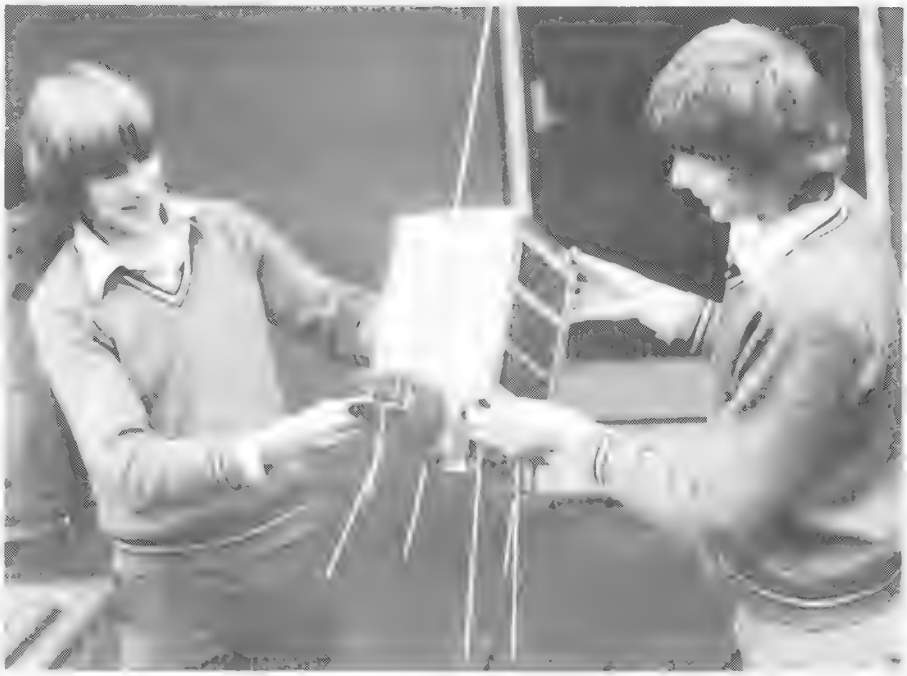
	OSCAR 7			OSCAR 8		
Date	Orb. No.	Eqx Z	Eqx °W	Orb. No.	Eqx Z	Eqx °W
AUGUST 1981						
1	30680	0137	104.8	17378	0029	69.4
8	30767	0017	84.9	17476	0101	77.7
15	30855	0051	93.8	17574	0134	85.9
22	30943	0126	102.7	17671	0023	68.4
29	31030	0006	82.8	17769	0055	76.7

It was good to hear that Ariane rocket LO3 was successfully launched from the ESA centre in French Guiana with Meteosat II and two other satellites aboard.

This augers well for the LO7 launch, possibly in June 1982, which will carry Phase IIIB amateur satellite. ■

RIGHT ♦

Scale model of UOSAT constructed at Geelong Technical School.



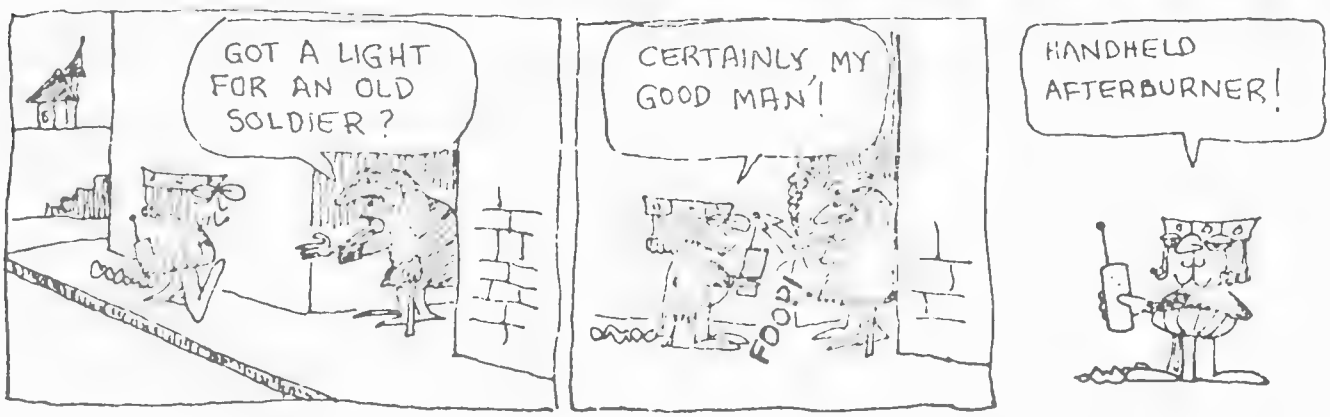
CLOSE-UP

Adapted from "The Millington Star", Tennessee, USA

The Tasmanian Devil Award in Dennis Cornell's shack (above) has pride of place. Dennis WD4HRO decided to qualify for it at the suggestion of VK7 amateurs, with whom he is a popular contact.

Dennis, of Millington, Tennessee, became an active amateur 13 years ago while in the US Navy. Serving on board the aircraft carrier USS Saratoga in the Mediterranean, he became involved in phone patching for crewmen wishing to speak to their wives and families in the US.

His wife, Kristi, is a novice operator studying for her general licence. ■



NOVICE NOTES

Edited by Ron Cook VK3AFW

CATCHING YOUR FIRST DX, IN A SCIENTIFIC WAY

Newcomers to the DX bands usually find working DX quite difficult. This month I will give some advice that will help these operators, although I do not claim this will give DXCC within three months.

Firstly make sure your station is efficient. Secondhand coaxial cable, poorly made connections to connectors and a poorly adjusted rig can (and must) be avoided.

Start with the transceiver. Check that the audio is crisp and clear. Adjust the gain and drive controls to allow full output on peaks only. Practise speaking across the face of the microphone with a constant level of voice. This will eliminate the gasping and heavy breathing noises as well as ensuring a high level of audio at all times.

Install a low loss feed system. This includes properly made connections at the aerial as well as at the transceiver.

Erect the best aerial that you can afford. A beam is not necessary to work DX but it helps a great deal. Put up a monoband beam if your budget is limited or build a wire beam from scrap timber and copper wire.

The various DX columns and notes give details of rare dX and special DXpeditions. For the experienced operator these are of great help but if you haven't yet worked any DX don't bother with trying for the rare ones yet. The pile-up of competing stations will give you less than one per cent chance if you are a beginner at this game.

Try working some Pacific DX, USA or Asian DX first.

Now you can't work the DX if they are eating their evening meal or in bed asleep. This simple fact is often overlooked. Countries like USA and Japan have large amateur populations, many of whom work shift work, so there may always be some JA or W stations about. Most places, however, have amateurs who work from 9 to 5, 5/6 days a week and operate in the evenings around 8 p.m. their time or in the afternoons on their Saturday or Sunday.

Tokyo, for example, is one hour behind EAST so JA stations may be expected in greatest numbers from 9 p.m. EAST on week nights and 3 p.m. to 7 p.m. EAST on weekends. The table shows "prime" times for various DX areas. Now we can select times when the numbers of DX stations are a maximum, increasing the number we could work if the band is open.

How do we know if the band is open in prime time? Well, the propagation predictions at the rear of this magazine show likely times when various frequencies will provide a path. We can select a frequency band which gives a good chance of there being an opening to our selected area at a prime time. The next step is most important. Tune the band carefully with the beam in the correct direction. Note the call areas being heard.

After tuning up and down you will have a list of stations (and frequencies). With a very little luck many of these will be from your selected DX target area. Now to work some stations.

It is always more productive (unless you have a really big signal) to answer stations calling CQ. Select a station with a good signal and note what happens when he stands by.

Suppose that after five seconds no one has replied to him. You are in luck. Give him a 2 x 2 call. ("JA3ZZZ JA3ZZZ this is VK3ZZZ VK3ZZZ go ahead.") It is advisable to give the repeat of your call in phonetics. Speak slowly and clearly. Do not rush you words as the other operator has probably learnt English as a second language, perhaps just so he can work more DX. If he comes back to you then fine. On your next over give him his report, your name and acknowledge his report when given. This is the minimum information required. Extra details such as "QSL via the Bureau", QTH, equipment, weather, etc., are fine, but unnecessary; if the DX stations gives these details he would like them from you. If not, then sign clear and look for another QSO.

If you want to rag chew with a DX station ask him first. You will be very unpopular with everyone if he wants to work large numbers of stations and you start holding up the queue by describing your cabbage patch.

What do you do if someone else calls before you? You wait until that QSO is complete and the DX station invites further callers. Give him a 2 x 2 call. If there is no evidence of a pile-up but he goes back to another station, wait until that QSO finishes before calling again.

If there is a pile-up then consider looking for another station calling CQ. If you decide to stick with this station then a different tactic is necessary. If propagation is not favouring your area but is favouring another area, then you may have to wait until the queue gets short or conditions change. Note the reports he gives to different VK call areas. Usually signals peak to eastern States first, then VK5, then VK6.

When calling give your call sign once with the last letters in phonetics (e.g. VK3 Alpha Foxtrot Whiskey). If there are several "heavies" in there calling let them fight each other. Wait until they stop and if the DX station doesn't come back (all he heard was garbage) give your call sign once. He knows you are calling him and doesn't need reminding of his own call. Be very careful with this procedure. It is known as "tail-ending" and does not always work. The "heavies" may hear you calling, think that your signal offers no opposition to theirs and (quite rudely) jump on and call over the top of you. Often this situation will get out of hand and cause the DX station to QRT in disgust.

To improve your technique tune around and find an expert operator. Listen to the way he operates. Calmly, speaking deliberately and clearly, repeating information only when asked and always asking whether the other station has his report before calling in other stations. He remains in command in spite of any poor or downright unsocial operating by other stations. He may refuse to work stations ignoring his instructions and requests or, if he does give them a report to get them off the frequency, they will never get a QSL from him.

Listen to the JA stations forming a dogpile on some DXer's frequency. Notice how they keep quiet when the DXers has picked out a call and is working that station. Compare their operating with others and decide which is the more effective. Remember, even when working DX a little consideration goes a long way.

73. VK3AFW. ■

DX PRIME-TIME TABLE

DX QTH	E.A.S.T. for 8 a.m. local	for 2 p.m. local	for 8 p.m. local
Central Europe	5 p.m.	11 p.m.	5 a.m.
South Africa	4 p.m.	10 p.m.	4 a.m.
Arabia	3 p.m.	9 p.m.	3 a.m.
India (Calcutta)	Noon	6 p.m.	Midnight
Philippines	10 a.m.	4 p.m.	10 p.m.
Tokyo	9 a.m.	3 p.m.	9 p.m.
Fiji	6 a.m.	Noon	6 p.m.
Hawaiian Is.	4 a.m.	10 a.m.	4 p.m.
Los Angeles	2 a.m.	8 a.m.	2 p.m.
New York	11 p.m.	5 a.m.	11 a.m.
Brazil and Greeland	9 p.m.	3 a.m.	9 a.m.
British Is.	6 p.m.	Midnight	6 a.m.

LISTENING AROUND

With Joe VK2BJX, Buronga, NSW.

My geographical location at 34 degrees 10 minutes south and 142 degrees 11 minutes east is probably largely responsible for the fact that I work more VK5s than I do any other call area, because Buronga is in the far south-west of New South Wales, just 4 kilometres north of the Mildura, Victoria, post office. Most recent of these included VK5APG of Adelaide.

When this QSO started it looked like a fairly routine one, that is until Paul told me that he is only 16 years of age, and still a student at Marian High School, Mitchum. Paul has been on the air for just over a year, and to get his Kenwood 520S he went out and sold newspapers. Now if that isn't eagerness to get going on amateur radio, I don't know really what is. At school he's in the right atmosphere for ham radio, as his physics teacher is a ham, as are also five other lads in his class. At the school the students share use of a three element 20 metre beam, which they take turns in using. All of which means that it looks like the Marian High School at Mitcham is not short of "electronics" bods.

Am very pleased to be able to welcome to the air waves Russell VK3VRZ of Narre Warren, who is the brother of a very good friend of mine who helped me get my ticket when he was in Mildura, namely Graeme VK3GZ, who is now somewhere in VK6. Russell came on the air for the first time on 17/6/81, and Gordon VK5HM and I were among the first to speak with him.

When I'm on the air, while I enjoy almost every QSO, I particularly like the "unusual" contacts — someone who is located far away, perhaps in some unusual place. Joanne VK5PJH, at Ernabella in the Musgrave Ranges, about as far north and west that you can go in SA without being either in the NT or WA, who was using a Kenwood TS120V in the wee small hours of Sunday, 24th May, told me that Ernabella is no longer a mission station. Why don't we hear you on the air more often, Joanne?

In the early hours of another morning a WA6 located in California, with a hefty two kilowatt signal, broke in on some of us using 80 metres. VK5HM was the only one who could get back to him, and when the Californian was asked what he was doing down in the VK portion of 80, he said that he had a "special experimental licence". On his first over with 5HM he was S5 R7 here, but on his second he was down in the mud.

Peter VK5ATB, portable at the Moomba gasfields in the far north of SA, is always interesting to talk to. He has sent me a lot of information about the gasfield and the camp where about 200 persons work. Despite the isolation of the area, they have all mod cons up there and when leave is due, they go by charter flights to Adelaide.

Sam VK2BVS and his helpers did a wonderful job with the Third Party net when the recent dislocation of the telephone services were on. Sam and his helpers were at the Chatswood Shopping Centre, sleeping bags and all, and with antenna on the shopping centre's flagpole. Sam tells me that even while asleep in his sleeping bag he can still "listen" on the Third Party net. While there, it seems that Sam and his helpers had some excitement when burglar alarms went off and scores of uniformed police converged on the centre. While the telephone dislocation troubles were on a bedridden amateur named Horrie at Renmark, answering a call for assistance by a Shepparton amateur in regard for another person who had suffered a heart attack, **rose from his bed** to phone the Renmark police and got them to relay the message on to the relatives of the person who had the heart attack.

Bob VK7RD, maritime mobile aboard the "Ion Baron", an iron ore bulk carrier, was heard just after midnight on 21/5/81. Bob was then a mere 100 miles west of Adelaide, heading from Port Kembla to Port Headland. Radio Officer Bob, whose home QTH is Hobart, was in South-East Asia last year. Aboard the 109,000 tonnes bulk carrier, Bob was only using 5 watts PEP on 80. At a speed of unloading of 6,000 tonnes per hour, the "Iron Baron" has a turn-around of only 24 hours at Port Headland, and guess what it brings back as ballast — **salt water!**

Ever heard of **Coolbellup?** Well, it's in VK6, near Fremantle, and Bert VK6ZY lives there. Bert, who runs a Kenwood 120S, is a gardener at a primary school, and he's a chap who, like me, reckons that you can't beat a cuppa tea made from rain water. Bert and I talked about that Fremantle landmark called the Rampart (which I have seen). The Rampart was built by convicts between 1840 and 1845, and is now used as a museum.

Harry VK3NPQ, from Trawool, between Seymour and Yea, had just become a grandfather ("another boy" he said) when I spoke with him on 12/6/81. Harry has been around for 65 summers and had shortly before come on the air using a Gemtronics and a transverter. He now sports an FT200 plus an 80 metre dipole, strung between gum trees on 40 acres of God's own country. Harry had been a regular SWL to 5HM and myself before coming on air.

Bob VK4VRP is a 25 w.p.m. bod who has spent more than 16 years in the army in a "supervisory" level. He uses an FT707 and has a relative in Mildura. Another Bob VK3CCH ("Chicken, Chips and Hamburgers) from Rosebud, who is a senior radio officer with OTC (VIM Melbourne) is now learning shorthand and says he may one day enter politics.

Early in June our QSO had a breaker who said he was 600 miles west of Adelaide. I took him to be somewhere on the Nullabor Plain, but if you look at a map of SA you will see that this could not be so. The penny didn't drop with me, but someone else got suspicious and asked the mobile what sort of mobile he was. The **aeronautical** mobileer turned out to be John VK3BUI of Mount Macedon. It turned out that he was flying at 33,000 feet in a 707 or a 727. He was my first aeronautical contact, and his outside temperature was minus 47 below freezing. About five of us spoke with John, who was using one of those million dollar sets on which you can dial up any frequency, and we left him to attend to his other duties when he was 180 miles out of Adelaide and headed for Bordertown.

Sugar Mike Six Lima Quebec Germany was another unusual QSO. Joe VK3LVE, from Rockbank, broke in to let me know that this other Joe SM6LQG was on VK3BSB's cocktail net. So I took my turn along with about 27 others to speak with Joe — Mickey Mouse. He was headed for Java, and I asked him what his present position was. He left his radio to go to the bridge to get me a satellite fix, which at 12.50 a.m. on 17/6/81 was 36 degrees 42 minutes south, 125 degrees 24 minutes east on a course of 280 at a speed of 13.5 nautical knots. The following morning I again contacted him when he was off Albany, due to turn north via Cape Leeuwin within hours, thence on to Java.

Thanks to the many who have responded so helpfully to my request on how to key my Kraco. I will reply to all direct. I now have an American EICO tri-bander, valved rig, and will be able to key this rig directly. My typewriter is now repaired and I will shortly be preparing a special article on Marconi's early attempts to send signals direct to Australia and I hope you will find it interesting. Thanks to the many also who have urged me to keep writing this column. It will be my pleasure to do so.

73s from Joe VK2BJX. ■

EQUIPMENT REVIEW

The Kenwood TS-530S HF Transceiver

Ron Fisher VK3OM

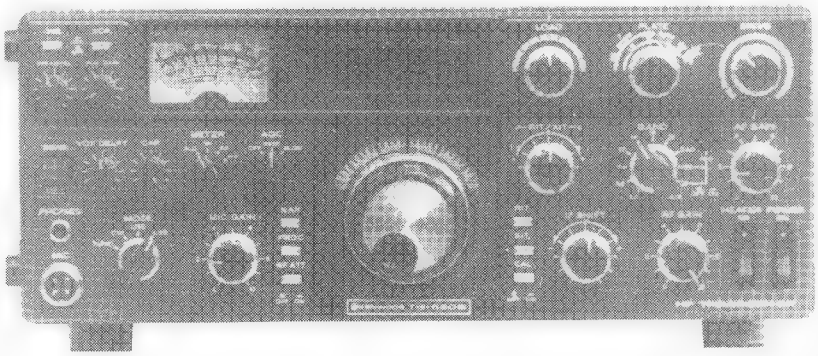
Several months ago when TRIO-KENWOOD COMMUNICATIONS announced their new TS-830S transceiver, they surprised many amateurs by reverting to a tube type final amplifier. They had after all brought out the TS-180S just a few months earlier and apart from the older TS-520S which was by now barely several years old, had made an almost complete change-over to fully solid state HF transceivers. Why then change back to tube finals? Perhaps the 180 did not achieve the popularity that KENWOOD expected and certainly it did have quite a few bugs. We did, in fact, obtain a TS-180 to review for AR but found that it had several problems. It was returned to the distributor and we were never offered another to complete our review. However, to contradict this, there is no denying the popularity of the TS-120/130 series. Their compact siz eappeals to many for both portable/mobile and base station use.

No doubt many amateurs are somewhat doubtful about solid state finals for normal home station use and perhaps many of them have had unfortunate experiences with them. Whatever the reason, Kenwood have seen fit to bring back the valve.

Before getting back to the TS-530S, a quick look at the TS-830S is in order to put the two transceivers into perspective. The 830 was hailed as a replacement for the successful TS-820S. Apart from the obvious additions to the front panel control functions, the circuit was changed from a single conversion design to a double conversion system with a 455 kHz second IF. The new TS-530S on the other hand has reverted to the 820 system of single conversion with a PLL system supplying the required heterodyning frequencies. We can therefore say that perhaps the new TS-530S is more closely related to the 820 than is the 830.

Before looking more closely at the 530 perhaps it should be pointed out that these transceivers are apparently in short supply, with most dealers being unable to supply. We were therefore pleased to receive the review sample from **Andrews Communications Systems** of Sydney, who assure us that they have plenty in stock.

Let's look at the main features of the TS-530S. In appearance it bears quite a similarity to al! of the current Kenwood HF transceivers. It is the same size and general appearance as the 830 and both are slightly smaller than the earlier 820/520 series. The panel height has been reduced by 2.5 cm and the width by 1.5 cm.



A digital frequency readout is now fitted as standard as is the excellent IF shift system. The transceiver covers all bands from 160m to 10m, including all the new WARC bands. There is also an auxiliary band position to allow for any future expansion. The noise blanker now has a front panel level control and VOX gain and delay are also brought out to the front.

A new feature is the front panel selection of a narrow selectivity receive option. Four filters are offered. The 2.4 kHz SSB filter is fitted as standard. A 500 Hz or 270 Hz filter can be fitted to the CW filter position which is selected on switching to the CW mode. Then a third filter can be installed and selected with the "Narrow" button. This can be either a 1.8 kHz SSB or your choice of the two CW filters. This is indeed a very neat idea. Unfortunately the optional filters were not available for testing.

Some of the other features are:

A speech processor for the transmit audio.

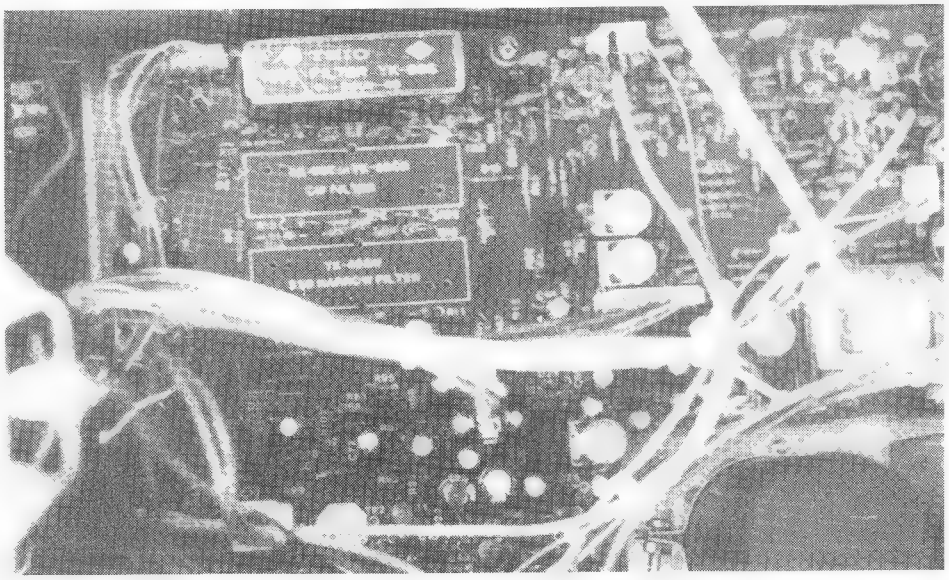
Selectable offset tuning for either transmit or receive, or both.

Selectable AGC for fast, slow or off.

A 25 kHz calibrator and an RF attenuator in the receiver front end.

The well illuminated and very legible meter can be switched for ALC, final cathode current, relative RF output, final high voltage and receiver S meter. One interesting aspect of the controls is that there are no concentric knobs, quite a boon for large fisted operators.

There is no provision for an optional DC power supply and in fact the AC line cord goes into the back of the set through a rubber grommet, the multi pin type connector for the AC cord has been eliminated. Other economy moves with the 530S are the elimination of a phone patch input and output connection. However, details on how the owner can instal a patch input is described in the handbook and an audio output is provided via the remote connector socket. The main tuning dial has also been simplified and is calibrated at 10 kHz



Left hand front view, showing SSB filters and positions for optional filters.

intervals only. No doubt the inclusion of the digital readout with its accurate resolution has been the reason for this.

TS-530S CIRCUIT FEATURES

As mentioned earlier, the 530 has a single conversion circuit with the actual IF frequency centred on 8130 kHz. Looking at the receiver line up first, the RF stage is a 3SK73 dual gate Mosfet. This is followed by an FET buffer stage into the mixer, which is balanced using two FETs. The heart of the 530S is of course the PLL unit, which supplies all of the carrier and heterodyning frequencies. It is interesting that it is now possible to change modes, that is from USB to LSB, without changing frequency — a decided advantage. Likewise, changing bands does not produce any frequency change to the dial setting, only the MHz reading changes to suit the new band.

The transmit speech processor is an audio compressor which switches between the microphone preamp and the mic-gain control. At the same time as this is switched in, the ALC action is changed to give a very fast attack and decay time. I will comment on the effectiveness of this later. It seems that Kenwood designers have gone to quite a deal of trouble to reduce spurious responses on both receive and transmit. The 3SK73 Mosfet, as used in the receive RF stage, is also used throughout the IF section and all mixers are double balanced.

Unfortunately no RF negative feedback is applied across the transmitter final stage as in the TS-820 and TS-830 transceivers. It is also interesting that IM distortion does not rate a mention in the transmitter specifications. This is a pity as Kenwood certainly made much of the improved IMD in the TS-820 with their RF negative feedback. However, as we shall later see, the 530 is still a relatively clean transmitter in this regard.

THE TS-530S ON AIR

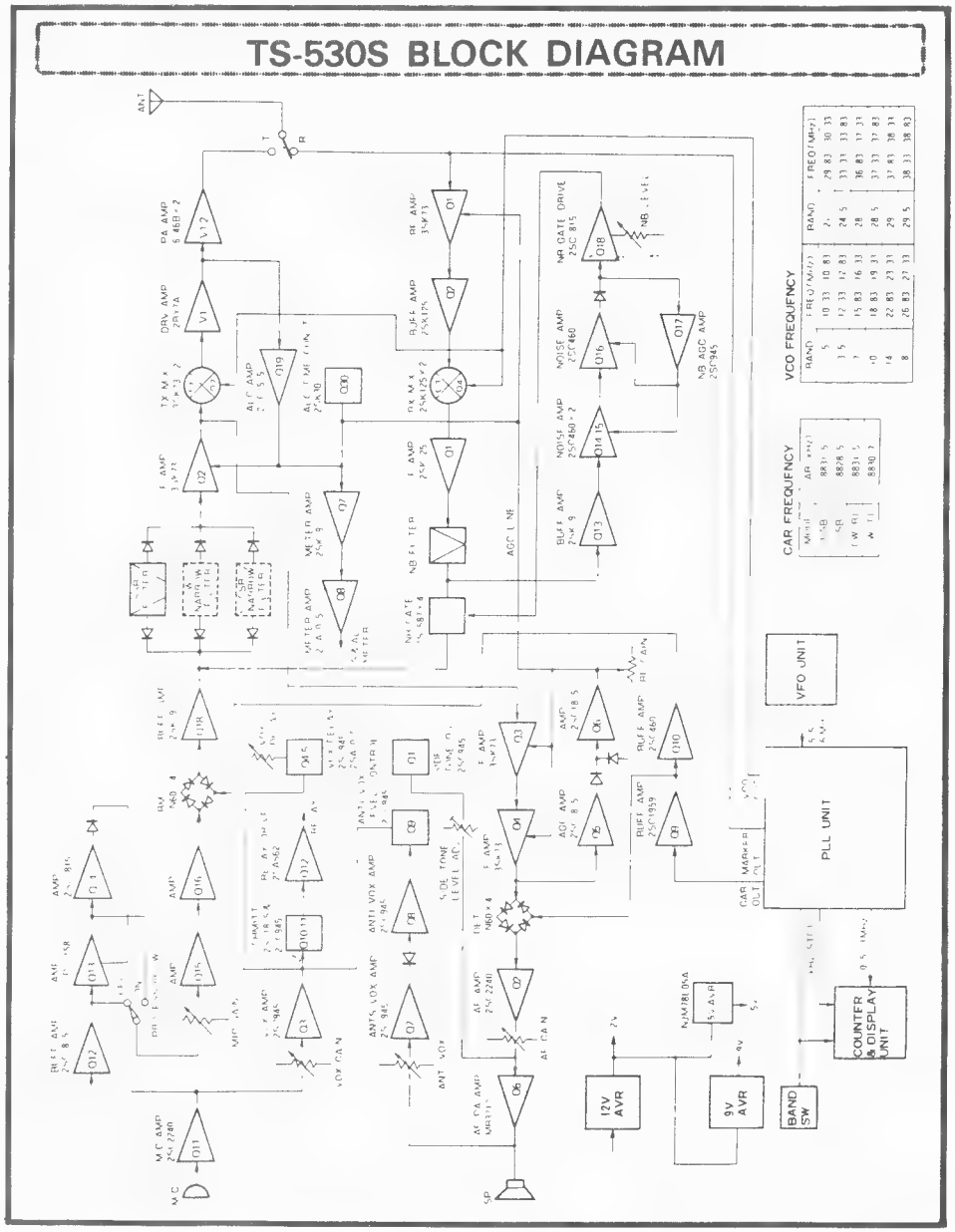
It must be said straight off that the 530 is a delightful transceiver to use. If you are used to using a fully solid state transceiver you might disagree with this, but I for one still find satisfaction in peaking up a final stage for maximum output.

The first test was the VFO. To check for drift, the 530 was placed out on the back patio for an hour or so to cool it down. Outside temperature was about 8.5 degrees C. Bringing it inside (about 18 degrees C), switching on and running for one hour, the total drift did not exceed 100 Hz. This must rate as excellent. Next the dial linearity was checked. I have yet to find a Kenwood VFO with spot on linearity, and this was no exception. Indexed at the first calibration point the dial readout varied by an estimated 2 kHz at the 100 kHz points. Of course it must be admitted that the digital readout was spot on, so perhaps this is an academic point. Incidentally, there is no way to actually set the dial scale to frequency. The tuning knob is graduated with 1 kHz marks, but I would find it hard to believe that anyone would use this. Tuning rate was one turn of the knob for 25 kHz, a little faster than many current transceivers. The TS-820, for instance, is one turn per 20 kHz. Illumination for the dial and S meter is in a soft cream colour. The digital display is blue and the figures are slightly larger than the TS-820 display.

The IF shift control was quite effective. Its ability to reject interference is limited to high frequency heterodynes mainly above about 1.5 kHz, it was however possible to pull through many signals that would have otherwise been unreadable. The noise blanker proved to be only fair in its operation. The blanking on household noises from cake mixers, fluorescent lamps, etc., was almost non-existent. Car ignition noise suppression was better but advancing the blanking control produced large amounts of distortion. There was no affect on the Woodpecker at all.

General receiver performance was excellent, sensitivity was as good or better than anything I had in the shack at the time of testing. AGC action was smooth but the S meter was rather lightly damped and gave a rather odd wriggle when reaching maximum on signals of about S8 or more. Strong signal handling ability of the 530S is excellent. We were unable to find a situation where the RF attenuator was required.

The transmitter was tuned up for maximum output on each band. There is no output on the new WARC bands. As stated in the handbook, a diode has been installed to inhibit transmission on these bands, however instructions are given on how to remove this. As the transceiver had to be returned after our test, this was not done. Output on 160, 80, 40, 20, 15 and 10 in the CW mode was measured at 150, 155, 125, 115, 105 and 100 watts. PEP output on SSB was essentially the same. However, when the speech processor was switched in, the PEP output dropped by about 5 per cent. In normal use, though, the pro-



cessor was quite effective but not up to the better RF clipper units.

The next test was to determine the amount of intermodulation distortion, commonly called splatter. This was done by working a station several kilometres away, which measured the strength of the distortion in relation to the wanted signal simply by swapping to the opposite sideband on the 530S. We then repeated the test using the TS-820 and got essentially the same figure. The actual ratio was S9 + 20 dB for the wanted signal and about S3 for the distortion products. The transmitted audio quality was rated as clean and smooth and probably more dependent on the microphone in use than the transceiver itself. We used a Kenwood MC-35S and a Shure 444, both with good results. VOX operation was smooth with just a small amount of clipping on the first part of the first word. While testing the VOX with a friend on air we got into a discussion on why VOX is, in general, not used. As a wise man once said, "Anyone can push the button on PTT microphone, but it takes an expert to let it go". Well maybe, but it is unfortunate that more don't use VOX. The transmit relay operation is relatively quiet.

The RIT, which operates on both transmit or receive, covers a range of plus/minus 2 kHz. Why, you ask, do we need offset on transmit? You are operating on 20m, working a weak DX station. You have the RIT on to help pull him out of the QRM. A strong signal comes up one or two kHz of frequency and asks if the frequency is in use. A quick push of the transmit offset button puts you on his frequency for your answer — very handy. RIT and XIT operation is signalled by individual LED indicators above the offset control.

Talking about indicators, above the digital display are four LED status lights to show operation of the speech processor, VFO on, calibrator on and RF attenuator on.

OPTIONAL ACCESSORIES

In addition to the filters mentioned previously, the following equipment is available to go with your TS-530S.

Two external VFOs. VFO 230 with digital display and five memories. VFO 240 standard external VFO with analog dial. AT-230 antenna tuner, which includes an RF power/SWR meter and antenna selector switch. SP-230 external speaker with built-in audio filters.

Other Kenwood equipment, such as linear amplifier, head phones, phone patch, etc., are compatible with the 530S.

It should be noted that a microphone is not included with the transceiver, but any of the Kenwood hand or desk microphones are suitable.

INSTRUCTION BOOK

A typical Kenwood instruction book with good operating information which is well illustrated. It covers all that most operators will require. On the technical side there is no description of the transceiver apart from a block diagram. Servicing is covered with basic alignment data plus individual circuits of the main printed boards and the overall interboard wiring.

Kenwood usually produce excellent workshop manuals for their transceivers and I look forward to seeing the one for the 530S.

CONCLUSIONS

At the advertised price of $779 from Andrews Communications and their dealers (see current advertisement in this issue), the 530S represents excellent value for money. If you take any of the current fully solid state transceivers and add a matching power supply you will finish up at a higher price. I predict the unit will be a top seller.

Homebrewing a Repeater Site

By the West Australian Repeater Group

The two major 2m repeaters in Perth have been co-sited for several years due to the lack of a suitable area north of Perth.

Early one Sunday morning in February, 1981, five members set out to explore an area to re-locate the channel 4 repeater. We found a rather nice hill (or small mountain — we don't have anything to shout about over here) and spent around two hours climbing it. At the top we discovered Kangaroo Ticks about our persons — most unpleasant as the large female can kill you — ugh! — we decided to call it Mount Tick or Tick Hill. Two weeks later a team took the portable repeater to the site with a 40 ft. antenna; a full day was spent with members of the group driving around giving signal reports which were plotted, and the resulting map showed Tick Hill would be ideal for our needs. The titles office was searched, the owners of the land located, and when approached gave us permission to use the site for an indefinite period.

The group already owns two free-standing towers, one for the wind-generator being 40 ft. and the other for the antennae being 40 ft. and the other for the antenna being 100 ft. high. One of our members is a structural consulting engineer, so we were fortunate to have his plans and advice on how to go about constructing concrete bases for the towers as the hill consists mainly of gravelly rock.

A 4-WD only track up the hill was ascended by around 15 workers for the next seven Sundays, clearing the site, digging the rocks, which proved to be larger than anticipated, so for the final three Sundays a jackhammer was hired. The construction gang soon grew fitter, muscles began to grow along with the enthusiasm! Pleas went out on the local news broadcast for galvanized iron and wood to make the forming, the amateurs of Perth were most generous, and finally the trenches were ready for the concrete.

The owners of the adjacent quarry had offered us the use of their stationary cement mixer, blue metal for free, water and a Hoff 80B front-end loader with a 4 c.m. capacity bucket to transport the mixed cement up to our site. The main problem was that the only accessible track was around 3 miles, 4-WD only, yet cruelly enough the main quarry road was but a few minutes down the steep side of the hill. We pointed this out diplomatically to the owners who did something wonderful — they put a road through for us which now allows a conventional vehicle to drive right up to the top; they also gave us access to their locked gate to make it possible to do this. We call this "Tick Highway".

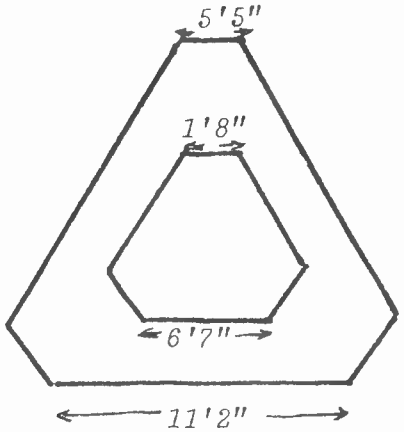
By concocting a rather good request letter and, aided by many phone calls, we have received donations of 130 bags of cement from two firms. with the aid of 4-WDs, trailers and a small truck these now are located under tarpaulin on site. 1000 feet of 1 in. reinforcing bar has been donated; some of this reposes in the trenches, whilst the rest will be placed between the double brick walls of the shack for security purposes. We will be forming the pad and "hat" for the shack when we pour the concrete, and would like to express our gratitude to the Cement and Concrete Association for their time and books and also to the Customer Service Chemist of another organization for his personal visit and literature. Weld mesh has been donated for the hat/pad and security; this has been cut up with borrowed bolt cutters and was ready for pouring day — "C" Day — the 6th of June. Sand has been ordered, an operator for the weigh batcher in which we can measure the quantities of cement — 16 c.m. of it — has volunteered, work has been done on the secondhand antenna tower with the bottom section being re-constructed and galvanized; both bases up to 15 feet now reside in the prepared trenches.

A worrying thing happened last week, we discovered that the firm had sold their cement mixer. Fortunately a tame cement truck and driver has been found for a reasonable amount of dB per hour; the truck will be able to pour directly into the holes whilst members shovel and vibrate it around. Another firm has donated the lifting hooks for the roof of the shack which, when cured and the brickwork completed, will be lifted with borrowed equipment on top. Another firm has donated the 6 dB gain co-linear antenna in exchange for some of our technical knowledge about cavities. All is in readiness for "C" day, which is in three days time; please cross your fingers that it doesn't rain.

To be continued. ■

WIND GENERATOR PAD.

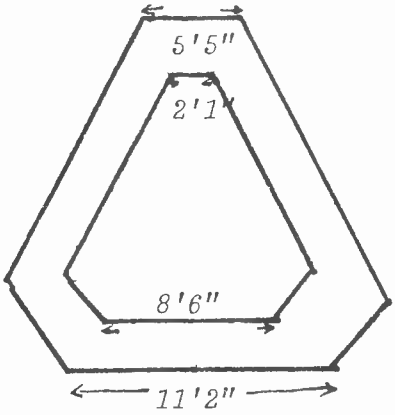
6.2 CU METERS OF
20 MPA CONCRETE.
EIGHTEEN INCHES DEEP.



BOTH TRENCHES HAVE
4 ROWS OF ONE INCH

ANTENNAE PAD.

6.0 CU METERS OF
20 MPA CONCRETE
TWO FEET DEEP.

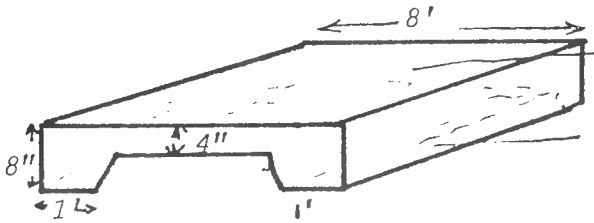


RE-INFORCING BAR
EVENLY SPACED AROUND
THE TRENCHES.

BOTH TRENCHES HAVE
SEVERAL EARTH STAKES
IN POSITION.

PAD FOR SHACK.

JUST LESS THAN
ONE CUBIC METRE OF
20 MPA CONCRETE.

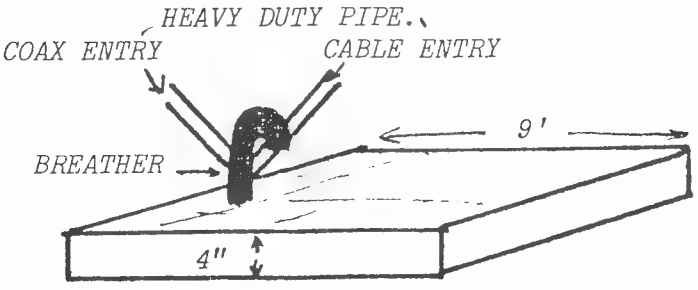


WELD MESH.

2 ROWS OF RE-INFORCING
BAR.

"HAT" FOR SHACK.

APPROX .8 CU M OF
20 MPA CONCRETE.



-WELD MESH.

VHF-UHF

AN EXPANDING WORLD

Eric Jamieson, VK5LP
Forreston, S.A. 5233

VHF/UHF BEACONS

Freq.	Call Sign	Location
28.230	ZL2MHF	Mt. Climie
28.260	VK5WI	Adelaide
28.262	VK2WI	Sydney
28.888	W6IRT	California
50.005	H44HIR	Honiara
50.100	KH6EQI	Pearl Harbour
51.022	ZL1UHF	Auckland
52.013	P29SIX	New Guinea
52.150	VK5KK	Arthurton
52.200	VK8VF	Darwin
52.250	ZL2VHM	Palmerston North
52.300	VK6RTV	Perth
52.320	VK6RTT	Carnarvon
52.330	VK3RGG	Geelong
52.350	VK6RTU	Kalgoorlie
53.000	VK5VF	Mt. Lofty
52.370	VK7RST	Hobart
52.400	VK7RNT	Launceston
52.425	VK2RAB	Gunnedah
52.435	VK3RMV	Hamilton
52.440	VK4RTL	Townsville
52.450	VK2WI	Sydney
52.500	JA2IGY	Mie
52.510	ZL2MHF	Mt. Climie
52.800	VK6RTW	Albany
144.010	VK2WI	Sydney
144.400	VK4RTT	Mt. Mowbullan
144.475	VK1RTA	Canberra
144.500	VK6RTW	Albany
144.555	VK5RSE	Mt. Gambier
144.600	VK6RTT	Carnarvon
144.700	VK3RTG	Vermont
144.900	VK7RTX	Launceston
145.000	VK6RTV	Perth
147.400	VK2RCW	Sydney
432.440	VK4RBB	Brisbane *
432.450	VK3RMB	Mt. Bunningyong

* Indicates a correction to previously listed frequency.

After being one of the first 2 metre beacons to hit the airwaves, VK5WI on 144.800 has finaly succumbed and is not operating at present. Current indications are that it may be off the air for some time as there seems a rather general apathy towards rebuilding. Anyway, I will do what I can to get it going again as soon as possible with its former good power output and on its new band plan frequency of 144.450 MHz.

BEACON DETAILS

There continues to be a general reluctance on the part of various beacon custodians to send me the requested information which I started asking for some months ago. So far information has come to hand from VK2WI, VK3RMV, VK4RTT and VK4RBB and VK5WI. If others have sent information then it hasn't got here. But it is not a very good response after six months, surely there is someone from the membership of the various clubs generally associated with the operation of beacons who can spend just five minutes and pen the following information to me: Call sign, carrier frequency, power (output or input), location, elevation, modulation, keying cycle, antenna (with gain if known), hours of operation, name of custodian. Plus any other relevant details you might like to include.

Once all this information is collected it can be published, and updated from time to time. On the present trends, on receipt of information, those who replied in the first instance will have "old" information before all the others have been collected. Shame on you all!

NEWS FROM VK2

Jeff VK2BYY, the VK2WI Property Officer, has sent along some more details of VK2WI, the first being the change in mode to A1 for their 28 MHz beacon, which is only 2 kHz from VK5WI.

Recently introduced SSB broadcast transmitters on 52.120 and 144.120 operate into the beacon antennae so the VK2WI beacons are off the air on Sundays during their broadcasts at 0100Z and 0930Z or 1 hour earlier during daylight saving.

Moves are afoot to shift the VK2WI 2 metre beacon to 144.420 and ultimately the 6 metre beacon to 52.420 to clear the way for the VK5WI beacon to use that frequency in due course. A 70 cm beacon on 432.420 is on the way, largely waiting for DOC to get through the paperwork!

Neville VK2QF also writes from NSW reporting more than 1300 DX QSOs on 6 metres since 19/10/80 to 10/4/81. Countries worked total 15 with 10 confirmed. Worked VK9ZD on 11/5 at 5 x 9, JAs on 18/5 also P29ZFS broke into a local contact at 0655Z at 5 x 9; 19/5 KG6.

SIX METRES RTTY

Les VK5ZW and Rod VK5AN have been active on RTTY despite a limited number of active participants to work. Worked VK4ZME on 21/12/80 at 0011Z on 52.085 559; VK2BQN 28/12/80 0840Z 52.100 599; VK2YIL 28/12/80 0810Z 52.100 599; they ask if these are first VK2 and VK4 contacts using that mode? Rod also worked JE3KKC on 17/3/81 at 1315Z on 52.014 at 599, believed to be first VK5 to JA contact of this type. All contacts with about 15 watts output.

SIX METRE DX STANDINGS

You should be able to remember in June 1981 issue a request via Bill W3XO of "QST" regarding 6 metre DX standings. I remind you again that Bill would like the information by 1st September, or you may send the details to me by 20th August and I will send it over along with other info I regularly send to Bill. Information required: Your call sign, date of application, country, station worked, 6 metre 2 way/crossband 6 to 10, date worked, QSL received yes/no, propagation mode, e.g. F2, Es, tropo, EME, MS, aurora, etc., transmission mode, e.g. SSB, CW, AM, FM, any remarks, your latitude and longitude, and address.

Off the cuff I could name at least ten operators who have a very good tally of countries worked, and another ten doing quite well also.

To start the ball rolling, **Steve VK3OT** has sent me his DX countries list, which should place him very close to the top for VK if not right at the top. His list shows 26 countries worked with 25 confirmed! Because his list is so good I am sure he will not mind it being published, and it might stir up some of the others with good scores to send them along so we can at last show "QST" there are other areas working under difficult circumstances (2 MHz split) which have amassed good tallies. Here is Steve's list:—

Australia, all States; New Zealand, all districts; Lord Howe Is., VK2BKE; Macquarie Is., VK0WW; Norfolk Is., VK9ZNG; New Guinea, P29GR; Fiji Is., 3D2AZ, 3D2DB; Western Samoa, 5W1AR; Chatham Is., ZL3LN/C; Japan, all districts, WAJA Award; Korea, HL9WI, HL9TG; Guam, KG6DX, KG6JDX, etc.; Minami-Torish, JH1KSB/JD1; New Caledonia, FK8AB, CR, BG, AX, etc.; New Hebrides/Vanuata, YJ8ZV, PD, KM, PH; USA, W6XJ, WB6NMT; Mexico, XE1GE, XE1TIS; Hawaii, KH6NS, IAA, HI, JJI; Alaska, WA4TNV/KL7, KL7FBI; British Virgin Is., VP2VGR; Hong Kong, VS6BE, VS6FX; Brunei, VS5DX, TX, LH; Solomon Is., H44PT, DX; American Samao, AH8A; Willis Is., VK9ZG, ZD; Philippines, DU1GF. Contacts which have been missed KX6QC, KH3AB, FO8DR, DL3ZM/YV5, ZF2DN, VP1A, N6CT and YB0X. Good work, Steve.

Now it's over to some of you other boys. Like VK4RO, VK4DO, VK8GB, VK5RO, VK5KK, VK2DDG, VK2BYX, VK6WD, that's just for starters! Let's get the lists in and push out some of the W stations!

BRISBANE WORKS DX

It's a fact! Despite channel 0 there are stations in Brisbane who do work 6 metres DX. **John VK4ZJB** sends a letter outlining

the type of activity going on there. 11/4: Bill KH3AB, Johnston Is., at 1820Z to VK4ZJB, VK4PU, etc. Bill advises when he goes on to 52 MHz he can only muster 6 watts! Signals were good enough however. 19/4: VK4ZNC worked 6 "W" stations. 25/4: 2058Z XE1GE 5 x 9 on 50 MHz but no sign of him on 52 MHz. That confounded 2 MHz problem again. Geoff XE1GE does have a problem it seems in getting on to 52 MHz after 28885 liaison, takes a little time, and conditions can change in between. Same day, 0114Z, Brunei VS5DX finally, after listening to him working everyone else around Australia! VK4PU, VK4WQ and others involved also. 0145Z Jay AH2K on Guam. John asked Jay to try 2 metres and see if he could get anyone else on the air, and was successful in getting KH0AB Saipan to come on 6 metres for a new country. Also worked by VK4PU, VK4WQ, etc. 25/4 also an excellent opening to JA with more than 50 stations worked. 16/5: KG6JDX, which is late for Guam area. Last JAs heard 14/5.

John advises that **Des VK4ZMI** is a newcomer to 6 metres and is very keen. He also passes on the view of the Sydney University that there is likely to be a large increase in solar activity with the soon to occur 179 year conjunction of the planets. If this is so then 1981-82 might well be a very good 6 metre year, and the Spring equinox is not far away. Thanks, John.

MY FIRST CONTACT WITH ZL ON 432 MHz

Occasionally letters to me get delayed for no apparent reason. One which finally turned up was written at the end of February and is from **Barry VK2AHE** and gives details of what he had to do to make his first contact to New Zealand on 432 — it shows what you can achieve if you are sufficiently motivated and therefore being of interest is included here for your reading.

"Monday night, 26/1/81 whilst listening on channel 6 repeater, heard the ZLs were coming through. I listened for over an hour on 144 and 432 to no avail. There's a large hill in the way from my QTH and with an 80 foot tower, two 5 elements on 144 and four 14 elements on 432, it was just not enough!

Next evening, 27/1, news there again — ZLs still being heard, but nothing at my shack. Called Peter VK2ZRT and found he had a spare "J" beam available so we decided to go portable to Mt. Sugarloaf, which is 1300 feet a.s.l. but 10 miles inland.

"Took my IC 451A plus 100 watt linear, 9 element 2 metre beam and joined up with Peter's equipment to produce gear for 144 and 432. Reaching the destination, it was 10 p.m. local and the ZLs were still loud and clear. Called on the ZL repeaters on 2 metres asking for 432 contacts, back came Bill ZL1TMS, John ZL2ARZ and Malcolm ZL3TFM on 2 metres. Finally, Ray ZL2TAL was located but the 2 metre repeater channels were mixed. We were listening to Channel E (ZL) with an output of 145.7 and Ray was listening to Channel 8 (VK) 147.0. We rectified this by listening to Channel E, which is the same input frequency.

"Ray put a signal on 432.2 SSB but after searching plus or minus 5 kHz could not find him. Eventually located him on 432.208 at S9! Thoroughly excited and with shaking hands we reached for the 2 metre mike and with great emotion said 'Ray, we've got it!'. We then had a 43 minute contact at 5 x 9; Ray was still able to copy my signal with a screwdriver in the antenna socket! Ray was portable at Port Taranath Lookout, 150 feet a.s.l., and running 35 watts to a 10 over 10 skeleton slot antenna.

"As we were signing at 11.33 local, John ZL1BVA called us from Mt. Maunganui, running 10 watts to two 15 element quagis at 24 feet. He was much weaker and signals varied from S1 to S8 for the 18 minute contact. Our biggest disappointment was that we had not taken along some 1296 MHz gear, but in our rush to the mountain we completely overlooked this possibility.

"With QSLs posted and received John ZL1BVA added it may be a 432 MHz record for New Zealand, distance calculated was 2282 km. The distance to ZL2TAL was 2140 km."

Good work and thanks for writing, Barry.

WORKED FROM NEW ZEALAND

May 1981 "Break-In" carries some mouthwatering contacts on six metres, chief participants being Bill ZL2CD and Cliff ZL1MQ but many others at various times. Most contacts were during the local mornings from as early as 2100Z. 3/3: K7NV, W6GGV, many JA. 8/3: W6XJ, JA7, JA8. 9/3: XE1GE and W6, with W6 again on 14/3, 15/3 and 16/3. On 18/3 W1HOY/KP4, KP4AAN, AA6S. 19/3: N6AJ, WB6BMB, WA6PZL, KA6HXV, DL3ZM/YV5, WA4TNV/KL. 21/3: JA. 22/3: DL3ZM/YV5, W1HOY/KP4. 24/3: WD4NMV, *WB2MAI. 28/3: ZF2DN, VP1A, VP2VGR,* KV4FZ, KP2A, NP2AE, W1HOY/KP4, KP4AAN, KP4EKG. 30/3: FO8DR.

"April 1, 2, 3 and 4 saw backscatter propagation throughout ZL with ZF2DN on every day and working almost every ZL available in all districts! The contacts over the period 28 to 30/3 saw many new countries worked on 6 metres. Puerto Rico (KP4), Bahamas (C6), English and American Virgin Islands (ZF2 and KV4), Belize (VP1), Jamaica (6Y5), Martinique (FM7), Dominican Republic (HI8), Mexico (XE1), plus of course the W and JA stations.

"Many contacts were between 50.095 and 50.120 with Caribbean area contacts utilising a sunrise path. ZL2CD comments FO8DR would probably be single hop F2, while Caribbean stations were double hop F2. All the above shows that the privilege of being able to use 50 to 50.150 MHz during non-TV hours is paying off in New Zealand.

"Ed Tilton W1HDQ comments in 'QST' that good results have been observed on long transequatorial paths late in every solar cycle since World War 2. North-south paths seem to be affected more by geomagnetic activity as shown by high A and K indexes, than by elevated solar-flux readings. In fact, he recalls some of the best USA to South American openings have occurred with solar flux readings in the low 130s.

"Exotic but not impossible calls workable from ZL are EI2W, EI6AS, EI9D, all in Europe. Italian station I5TDJ has permission to operate on 6 metres, as does SU1DH using the call SZ3DN. 5B9AZ in Cyprus may use 50.110 on CW only and TF3SG Iceland is active in the 50 MHz band international frequencies. Closer home but equally hard to work from ZL are ZS6XJ, ZS5TR and ZS3E and many others.

"Back in the Northern Hemisphere, GB3SIX beacon runs 25 watts to a four element beam pointing west, and is operational 1200 to 1930Z from April to September, and one hour later for the rest of the year. A new Canadian beacon has appeared on 50.077 with the call VE3RDL."

NEW ZEALAND REPEATERS

As most of you are aware New Zealand is in the process of changing all their repeaters to a 600 kHz split, and they will then be known by name and frequency only, using the last three digits of the output frequency with the decimal point ignored. VK stations will be able to identify what the actual split is by the numbering attached to each repeater. Repeaters 700 and below are —600 kHz transmit offset, while repeaters above 700 are +600 kHz offset. All this, of course, means greater compatibility with equipment in use in Australia and will lead ultimately to more contacts being made across the Tasman. By the time you read this the change to 600 kHz split should be virtually complete in New Zealand, in plenty of time for familiarization before next January/February, which is often prime time for long distance 144 and 432 MHz contacts to New Zealand and throughout VK.

STRAY BITS

A stray bit I missed in an earlier letter from **Tony VK6BV** was that the contact on 22/2/81 at 1408Z between Wayne VK6WD and VS5DQ on 52.035 simplex was the first VK6/VS5 six metre contact, and at that time the only other contact for Graeme was with VK8GB. This also would be one of the earliest contacts to Brunei from VK.

The Liverpool and District Amateur Radio Club Newsletter has arrived on my desk and I note from it a comment from **Rodney VK2CN** that the second Newcastle repeater channel 27 on 433/438.675 will soon be moved to a new location on Mt. Sugarloaf, 1349 feet a.s.l., with a 100 watt linear added and an improved aerial system giving 250W ERP. (I just wonder what Barry VK2AHE will think about that!) The antenna is to be mounted on the NBN TV tower, giving reasonable all round radiation except to the south-west (Lithgow)

area. The repeater expected to be operational from about mid-June.

Thanks to **Nev VK2ZBQ** for sending the "Bullsheet" as it is known!

576 MHz EQUIPMENT

June issue of AR carried an advertisement from me for 476 MHz equipment! This was a printing error and should have read 576 MHz equipment. I hope the advert will be repeated correctly this month, but these few lines are to draw your attention to the fact that I am getting interested again in 576 MHz. Several years ago I sold my 576 gear, a move I now regret. If anyone has items which are usable at that frequency I would be pleased to hear from you. It will save me having to spend a lot of time building up fresh equipment for limited usage if something already built is available. Please have a look through your dusty shelves and see what you have that could be made available.

That's all for this month, as you can judge from what is written there hasn't been much VHF activity of any consequence, not an unusual state of affairs for the winter months.

Another reminder to send the beacon information please.

Closing with the thought for the month: "The pace of events is so fast that unless we can find some way to keep our sights on tomorrow, we cannot expect to be in touch with today."

73. The Voice in the Hills. ■

MELBOURNE 2 METRE SCRAMBLE RULES AND SCORING

The objective of a scramble is to contact as many stations as possible within a time limit, giving out RST report plus a scramble number 001, 002, e.g. 59001, etc.

CITY STATION

A city station is a station located within 100 km from the Melbourne GPO, corner Elizabeth and Bourke Streets, Melbourne.

COUNTRY STATION

A country station is a station located more than 100 km from the Melbourne GPO.

SCORING

City to city: 1 points per contact.
City to country: 2 points per contact.
Country to city: 3 points per contact.
Country to counry, less than 100 km: 1 point per contact.
Country to country, more than 100 km: 3 points per contact.

City stations should operate between 144.150 and 144.180 MHz for city to city contacts and 144.180 to 144.200 MHz for city to country, and vice versa and country city to country, and vice versa for country to country contacts. The winner of a scramble is allocated 4 points towards the Bail Electronics trophy at the end of the year, the second placer 3 points, third place 2 points, and any other station participating 1 point.

A city winner becomes the control station for the next scramble and is allocated 3 points if he turns up. A winning country station is allocated 4 points for winning, but a second place or third place city station controls the next scramble.

Scrambles are held every two weeks at 8.15 p.m. EAST on Sunday nights. ■

SIX METRES IN SRI LANKA

Sri Lanka is one of the few developing countries in ITU Region 3 that permits its amateurs to use the 50-54 MHz band.

At the present time, the principal activity on six is by Ernest Amarasinghe 4S7EA. Over the past twelve to eighteen months Ernest has worked over 200 different Japanese stations, YB0X and VU2ST.

His station details are as follows:—

10 watts to TS600 transceiver with HB linear using pair 6146s available. Antenna is a CL6 DX 6 element yagi 38 ft. high. Principal transmitting frequeny 50.120 MHz.

Ernest is aware of the normal Australian and New Zealand allocations on six, but finds difficulty in working into these areas.

It should be noted that 4S7EA cannot normally operate between the following times:—

0630-0800 hrs. local time (0100-0230 hrs. GMT) and 1500-1900 hrs. local time (0930-1330 hrs. GMT).

This is due to power cuts in Colombo caused by shortage of water in the hydro-electric water storage reservoirs.

Ernest's address is 161 Colombo Road, Divulpituja, Boralesgamuwa, Sri Lanka. Telephone 073 2466.

Interested 50 MHz operators could contact 4S7EA at the above.

David Rankin 9V1RH/VK3QV. ■

INTRUDER WATCH

Graeme Fuller VK3NXI

The following is the text of a lettter dated 22.6.1981 received by the WIA from the Minister for Communications (see July AR, page 8):

You recently wrote to me concerning interference to radio transmissions suspected of being caused by signals emanating from Over the Horizon Radar (OHR) systems located in the Union of Soviet Socialist Republics and other matters related to Intruder Watch issues.

The Intruder Watch Co-ordinator usually presents to my Department at intervals of approximately two months a list of radio stations observed by members of Intruder Watch operating in the amateur bands.

A study undertaken in my Department shows that of the entries listed as intruders, no action can be taken in the majority of cases for one or more of the following reasons:—

(a) the offending transmissions emanate from countries which are not signatories to the International Telecommunication Union (ITU) and therefore not subject to control by the ITU;
(b) the identification is not sufficient;
(c) inability to verify reports;
(d) the apparent intrusion in the amateur band is due to a design fault in the amateur's receiving equipment, known as image interference and in some cases cross-modulation.

It is appreciated that interference to amateur frequency bands is a cause for concern. However, I understand that the Amateur Service, by its nature, has the ability to defer its operations, or to conduct a particular communication in another nortion of the spectrum while the interference exists.

The article in the International Radio Regulations, "Procedure in a Case of Harmful Interference" indicates that in the settlement of harmful interference problems, due consideration be given to all fatcors involved, including relevant technical and operating factors such as the adjustment of frequencies.

From the evidence available to my Department, it would appear that the interference in a number of cases is of a spasmodic nature,) dependent upon the operating conditions at the time. Before making an official approach to another nation a complaint must be on substantial and specific grounds having due regard to the operating conditions of the services concerned. Accordingly, the Amateur Service must be seriously affected before I would initiate any formal negotiations with another Administration. You may be assured that any interference from Australian services will be given the normal prompt attention by my Department that has been provided in the past.

As you are aware, there is increasing pressure on Government Departments to maximise the effectiveness of their operations as part of the current policy of reducing the size of Government, and in this regard it is necessary to establish priorities concerning workloads. Accordingly, it is not possible to provide for a detailed investigation of each of the stations listed in the Intruder Watch reports but my Department will endeavour to investigate reports of persistent intruders which do not fall into the categories previously listed. My Department is particularly concerned if harmful interference disrupts the operation of essential radio communications services and I would hope that you can appreciate this situation.

In relation to OHR, I should mention that the responsible authorities for safety communications in Australia have not observed any circumstances of significant interference on any of the internationally recognised radio distress channels. On the other hand, there has been some observation recently of OHR signals occurring on the Australian safety frequency 27.880 MHz,

though the extent has not been serious. However, on the basis of these observations, my Department has initiated communication with the USSR seeking their co-operation in avoiding interference to the 27.880 MHz safety channel.

It is hoped that the above information puts the situation in its correct perspective. You may be assured that further official action will be forthcoming if and when it is deemed that the circumstances, based on specific cases of harmful interference to Australia radio services, warrant such action. ■

The Intruder Watch in Australia

Since its inception in 1967 the Intruder Watch has steadily grown in importance and in volume of reporting, until now it is comparable with all other countries.

The Intruder Watch was originally formed in an attempt to preserve the few remaining frequencies available to the Amateur Service, so as to come into line with the European and American institutions. We now have Co-ordinators appointed in every State throughout the Commonwealth (list below), and we have a very good liaison with our Department of Communications. Reports are forwarded to them for filing or for action monthly. Summaries of intruders reported are also forwarded to ARRL and to RSGB.

The aims of the Intruder Watch Service are:—

1. To encourage amateurs and shortwave listeners to regularly submit accurate and detailed reports about intruder transmissions heard in the amateur bands.
2. To educate observers and potential observers through magazine articles, personal instruction and through regular on air nets.
3. To present intruder reports and summaries to the Department of Communications for possible action by our Government, and general co-operation with DOC in regard to intruder matters.
4. To exchange intruder information with the organizations of other nations.

Reporting of intrusions that are perpetuated by commercial or Government stations whether they be broadcasting, CW, RTTY or facsimile, is a necessity so as to let these commercial and Government interests know that we, the Amateur Service, are aware of and are documenting their intrusions into our bands. However, only WIA members can help their Co-ordinators by reporting all signals heard of an intruding nature the DWS is ham-strung and not able to do anything about having the intruders removed from our bands.

In the [illegible] time was using 21345 kHz as their broadcasting frequency. They have now gone to 21945 kHz.

Report forms and instructions are available from your Divisional Co-ordinator, and an identification tape is also available for the purpose of educating members in identifying the modes of intruder signals. A blank cassette to the undersigned will ensure delivery.

Alf Chandler VK3LC,
Region 3 IW Co-ordinator.

Co-ordinators are:—

Federal — Graeme Fuller VK3NXI, PO Box 156, Healesville, Vic. 3177.

VK1 — Frank Robertson-Mudie, PO Box E288, Canberra, ACT 2600.

VK2 — Bill Martin VK2PFH, 33 Somerville Road, Hornsby Heights, NSW 2077.

VK3 — Frank Gardiner VK3VAV, 1 Pine Street, Kinglake, Vic. 3763.

VK4 — Gordon Lovedale VK4KAL, "Aviemore", Rubyvale, Qld. 4702.

VK5 — Leith Cotton VK5LG, 64 Weroona Avenue, Parkholme, SA 5043.

VK6 — David Couch VK6WT, 9 The Grove, Wembley, WA 6014.

VK7 — Frank Beech VK7BC, 37 Nobelius Drive, Lagana, Tas. 7251.

VK8 — Henry Andersson VK8HA, PO Box 1418, Darwin, NT 5794. ■

CONVERSION DETAILS FOR AWA CARPHONES — JUNE AR

Thanks to P. W. Campbell VK2AXJ for supplying the formula for 6m (low band) conversions mentioned in the first paragraph:—

Tx: F/24
Rx: (F + 2)/5

EDUCATION

Brenda Edmonds VK3KT has recently taken on the position of Federal Education Co-ordinator. She is looking for help!

Please send ideas, requests criticisms, complaints, etc., to her QTHR.

Any matter relating to education is fair game, but comment about emphasis and degree of depth for the existing novice syllabus would be particularly welcome. ■

VK-ZL CHAPTER

[illegible] Amateur Radio [illegible] Chapter [illegible] held [illegible] and frequencies [illegible] –

[illegible] at 1245 GMT [illegible] and VE members.

Every Sunday 3.625 at 1015 GMT [illegible] VK and [illegible]

[illegible] 7.145 at 23[illegible] for VK [illegible] stations.

[illegible] Saturday [illegible]

[illegible] Novice [illegible] and [illegible] station [illegible]

FORWARD BIAS

THE VK1 AWARD

The VK1 Division has for some months now had its own award. Full details relating to this award have been published in AR and in a number of other local and overseas publications.

To date 21 VK1 awards have been claimed, the latest being by UK2RDX, the Talin Radio Club in Estonia.

Basically the award requires that VK amateurs make 20 contacts with VK1 stations, and overseas stations 10 contacts. The Award Manager is Fred VK1MM (QTHR), and the cost to claimants is $2.

The certificate is a most attractive piece of paper designed on a background picture of the magnificent Telecom Communications Tower on Black Mountain in Canberra, and would be a very acceptable addition to your existing wallpaper.

There is a VK Award Net operating on 21.150 MHz each Saturday morning at 9.00 a.h. (AEST), and a second net on 28.480 MHz each Wednesday night at 8.30 p.m. (AEST).

As there are only some 200 odd VK1 amateurs and only about 25 per cent of these are active on the HF bands, the VK1 Award might test your endurance. This factor will, however, make it all the more worthwhile.

MORE WOODPECKER

Surely the prize for the most inane reply to a question in the House must go to [illegible] member for his recent statement regarding OTHR interference to the amateur bands.

This gentleman, while acknowledging **some** interference on the 14 MHz band, suggested that amateurs might shift to another frequency when interference from the woodpecker is experienced.

It seems to me that this is rather like being advised to sell your house and move to another suburb when you [illegible] decides to set up a panel beating business in his back yard.

The woodpecker and other illegal users of **our** frequencies will not just go away, and the longer we tolerate their interference the more of [illegible] to hear. If you want to hear [illegible] drowning in interference just listen to [illegible] to 7.1 MHz at night.

It appears that we must help ourselves in this matter — SUPPORT YOUR INTRUDER WATCH.

WICEN ACTIVITIES

The VK2 WICEN [illegible] the NSW Police Department [illegible] assist in passing [illegible] during the Te[illegible]

Although [illegible] type pass[illegible] was obvious [illegible] WICEN [illegible] have the [illegible] community service [illegible] tions [illegible]

[illegible]

Perhaps the powers that be will in time come to recognise WICEN and amateur radio in general as a valuable resource for Australia-wide communication during times of emergency.

It is significant, however, that while the NSW Police Department saw fit to activate WICEN in that State, they completely forgot to notify their country stations and the interstate Police Forces that they had done so. The net result of this was that messages received interstate via the WICEN net were treated with something more than reserve in those States. The Australian Federal Police Force in Canberra in fact teleprinted the NSW Force to confirm that the first such message received by them from the VK1 WICEN net operator was genuine. One cannot of course blame them for their caution but this would have not been necessary had NSW been a little more on the ball.

There are obviously many aspects of WICEN operation in emergency conditions that need to be discussed in detail with the various Police Departments and State and national disaster organisations if WICEN is ever to assume the role it is capable of filling in times of emergency.

The June 1981 lessons are plain — for best impact what needs to be done must be done now.

AUTHOR'S NOTE

The views expressed in the foregoing items are those of the author and do not necessarily reflect the views of the Executive or general membership of the VK1 Division.

73. VK1KV. ■

VK2 MINIBULLETIN

COUNCIL REPORT

At the June meeting Council received a reply from the Special Broadcasting Service to our request for curtailment of daytime transmissions of the test pattern on TV Channel 0. SBS advised "We have had a lot of pressure from the industry to maintain prolonged test transmission to assist them with the installation of new aerials and also the adjustment of receivers for the reception of this new channel". As advised by SBS, Council has now written to DOC, Sydney, requesting that the Channel 0 test pattern be turned off during the day to allow amateur operation on 6m.

WICEN have been allocated a room at Atchison Street for storage and other uses. Congratulations to all those who took part in the handling of messages during the Telecom dispute. Don't forget the WICEN net held each Thursday night at 9.30 p.m. local on 3600 kHz. The Affiliated Club net is held immediately prior to the WICEN net on Thursdays at 9 p.m. local on 3600 kHz.

At the June meeting, the Divisional Secretary reported to Council on the investigation by the Corporate Affairs Commission into the affairs of the Division as a result of many complaints from members in the past and the qualification of the accounts in 1979. Two officers of the Investigation Division called at the Divisional office on Tuesday the 9th, and Friday the 12th of June. They advised they would be visiting the Division's auditors and writing Council a letter about the results of their investigation.

The UHF repeater application from Summerland ARC on channel 8675 was recommended by Council for DOC approval.

Council decided that both morning and evening broadcasts be conducted from Dural. Council also recommends to all those submitting items for the broadcasts that they be limited to three minutes duration, with a maximum of five minutes. The Broadcast Officer has the discretion to edit any item submitted for broadcast. If you would like to assist the broadcast as either an engineer or announcer, please contact Divisional office.

The appeal for donations to the Tower Fund has reached $1600. Many thanks to those who have donated recently (to 29/6/81): M. Hort $5, S. Porch $25, P. Fitzherbert $25, Liverpool ADARC $31, Griffith RC $25, A. Brown $5, N. Mattick $5, D. Harding $5, H. Wright $20, Gladesville RC $220, D. Walters $10, L. Smith $10, P. Stuart $15, G. Burge $15, W. Dowling $7, V. Everitt $5, J. Brinkman $5, Manly Warringah DRC $50, G. Archibald $10, J. Copley $10, K. Blume $10, W. Hayes $15, A. Gee $25, J. Bender $5, E. Mutch $5, Bathurst ARC $20, P. Campbell $10, A. Andrews $10, South West ARS $25, R. Lopez $20, L. Kowald $10, D. Cowle $10, D. Bell $15, N. Stewart $20, G. Davey $10, W. Stuart $15, R. Purdie $10, L. Cartwright $5, R. Clark $25.

DURAL FIREWORKS NIGHT

The Dural Committee organised yet another successful fireworks night at the Divisional transmitting site, Dural, in June. 370 people came for the barbecue of five sheep and 60 chickens on the spit prepared by John VK2BBC and his three assistants. People came from as far afield as Rylstone, Gosford, Camden and Newcastle. Many people helped make the night a success by assisting with the car parking, foor preparation and serving (under the able supervision of Jan Henley) and provision of other services. The grand display of fireworks, which lasted for 45 minutes, was viewed by 435 spectators. The display concluded with the set fireworks piece depicting the station's call sign VK2WI. The hardworking Dural Committee is to be congratulated for an excellent evening's entertainment.

FIELD DAY

Tamworth Amateur Radio Club are proud to announce the 2nd Noel Taylor Memorial Field Day, to be held on the 12th and 13th September. The Saturdays events will be at West Tamworth Scout Hall, while the Sunday events will take place at Duri Hall just outside Tamworth. Events include 2 x 2 Tx foxhunts on 146 MHz, 2 x 40 metre foxhunts on 7.05 MHz, 2 scrambles, a 2m foxhunt on 146 MHz, 2 x 10 metre foxhunts on 28.48 MHz, 2 talk in events and a 2m pedestrian foxhunt. Squeezed in between all the events will be a disposals market, trade displays and barbecue lunches and teas. If you would like a programme, please write to Tamworth ARC, PO Box W107, West Tamworth 2340.

Details of a club affiliated with the NSW Division:

ARMIDALE AND DiSTRICT AMATEUR RADIO CLUB, VK2DGZ

Meetings: Organic Chemistry Building, University of New England, on the last Wednesday in the month.

Net: Last Wednesdays at 7.30 p.m. on 28.495 MHz (prior to meetings).

President: M. McGregor VK2NXU. Vice-President: K. Ward VK2YFW/NOI. Secretary: D. Boundy VK2BAE. Other Committee: J. Rogers VK2ACW, N. Johnson VK2NWJ, K. Merideth VK2VCB, R. Hansen VK2VUX, F. Hansen VK2IZ, V. van der Drift VK2VCC, J. Wolfenden VK2AZA.

The following clubs are at present affiliated with the NSW Division:—

Armidale ARC, Avondale ARC, Bathurst ARC, Blue Mountains ARC, Castle Hill RSL ARC, Central Coast AR, Coffs Harbour ADARC, Goulburn ARC, Griffith RC, Gunnedah ADARC, Hornsby ADARC, Illawarra ARS, Liverpool ADARC, Manly Warringah DRC, Mid South Coast ARC, Moree ADRC, North West ARG, Novice ARG, Orange ARC, Oxley Region ARC, Parkes ADARC, South West ARS, Southern Highlands ARS, Summerland ARC, St. George ARS, Taree ARC, Tumut ADARC, Wagga ARC and Westlakes ARC. An invitation is extended to those clubs not affiliated to join with the 29 other clubs and participate in the Conferences of Clubs held twice each year. The next Conference will be hosted by Illawarra ARS on Sunday, November 1st. If you would like details of the requirements for affiliation, please write to the Divisional Secretary, Box 123, St. Leonards 2065.

COMING EVENTS

All VK2 amateurs are invited to participate in the Remembrance Day Contest this year. VK2 has won the contest only once! See elsewhere in AR for the rules, dates, etc. Last year VK2 moved up one place on the previous year, so join in the "friendly contest" this year and see if we can improve again.

12-13th September, Saturday and Sunday, Noel Taylor Memorial Field Day, Tamworth.

All NSW members and clubs are invited to submit news for inclusion in this column. Please submit it to Box 123, St. Leonards 2065, two days before the end of the month prior to publication, e.g. by 29th August for October AR. ■

QRK5

A monthly transmission from the Victorian Division WIA.

DELIBERATE INTERFERENCE

For some months now, interference on 2 metres has been widespread and persistent. Some of it is quite innocent (viz., the incident of the 28th April where a transmitter was locked on accidentally thereby blocking the WICEN repeater on Mt. Macedon for about four hours). Some of it is deliberate and malicious and is causing concern to the WIA and to the DOC.

It is evident that some of the interference is the same as that suffered by the UHFCB repeater. What may not be evident is that much effort is being made to locate the offenders.

The DOC has demonstrated its willingness to co-operate with the WIA by its response to interference calls.

Recently a business located in the Kew area was using 144.48 as a communications channel. An active amateur reported this to the DOC and since the 4th of May nothing has been heard of the interfering signal.

This demonstrates that where the amateur is being interfered with by fellow amateurs or pirates the DOC is putting as much effort (sometimes more, we feel) into helping us with our problems, as those who are suffering with TVI, etc.

A word of warning for those who are causing interference. You will be the last person to know that you have been identified. Where possible, prosecution by the DOC will follow when sufficient evidence is available for a conviction. In future it will be policy for such convictions of amateurs to be published in these columns.

This is not a persecution of the innocent and unintending offenders. The innocent clear themselves because they only do it once. However continual interference will result in an unpleasant visit from the DOC.

N.B.: If you have definite information of offenders please contact the DOC on 26.6921 and report the offence. This is for our total good.

Pete Drury VK3JN. ■

QRM

NORTHERN NOTES

Meeting held Friday, 8th May, a record attendance indeed. During the evening a film was screened on the JARL-7 JIRL DX-pedition to Okino Torishima. An open discussion followed.

Certificate No. 1590 was presented to VK7NB (Northern Branch), being for combined Phone and CW. First place in Tasmania for participating in the RD contest.

Approval has been granted by the DOC to relay the WIA Sunday evening broadcast from 2 metres, repeater 8, to 10 film was screened on the JARL-7JIRL DX-metres 28.550. Time 1930 EST/0930Z. VK7NB would appreciate all reports whether SWL or licensed amateur, especially with solar activity on the decline.

One event that was hot on the line after screening of 7 JIRL DXpedition was the Flinders Island DXpedition hosted by DX-ers none other than VK7RC and Phil Rosco VK7ZEN. Equipment used was an IC551, IC211 and IC701. All bands were continuously monitored 24 hours a day. Numerous contacts were logged both on HF and VHF from Walkers Lookout. QSL info as listed in 1980 Call Book, VK7RC and VK7ZEN. Dates of contacts were from Saturday, 6th June, to Monday, 8th June. Congratulations, gentlemen, a surprise indeed.

Another victory to Norther Branch. Congratulations go to Brian Yeoman VK7ZBY, Bob Grant VK7ZRF and "Bill" Alan Bower VK7NAC. The event was the Athol Johnson Memorial VHF and UHF Contest. Location was radio station 7EX (1010 on your dial) hill, approximately 10 miles east of Launceston. All bands VHF and UHF and modes were used to win the above contest.

Heard and seen on repeater 8 near the Greater Launceston area were West Australian visitors Neil Renfold VK6NE and daughter. QTHs who responded with cordial Tasmanian hospitality were Col Wright VK7LZ, Andre Everts VK7AE, Frank Beech VK7BC and Den Kelly VK7DK of Perth, Tasmania. A safe journey home was wished by all from VK7. See you next trip, Neil.

SOUTHERN NOTES

None has been received as yet, but I do believe Barry Fraser has now upgraded to a full call. Congratulations, Barry.

NORTH WEST NOTES

Meeting was held on May 12th and a visitor was welcomed, Max VK3AWM.

Peter VK7BQ, our Federal Councillor, discussed various matters relating to the last Federal Convention, and it was pleasing to note that 576 MHz is going to be available in the foreseeable future.

A film was screened during the evening, "Hospitals Don't Burn Down". Several beneficial factors were brought to the minds of the 31 guests of this meeting after the above screening.

Vince VK7WH did an excellent job in convincing amateurs how to purchase radio spares and equipment at an impromptu auction later in the evening.

Jim VK7KOW (ex VK7NOW) has submitted further information on his NZ (ZL) expedition, which shall appear in next month's issue.

Have also noted that VK7WK Kel Williams (ex VK3BWK) has been activating repeater 8 a little more successfully lately; QRP 800 mW. The local Perth Lions Club (Tas.) has invited Kel along to lecture on amateur radio and its beneficial points to the community. Good luck, Kel.

73. VK7AN (ex VK7NAB). ■

VK4 WIA NOTES

VK4 WIA NOTES

This is a bulletin from the **VK4 Division.** The Division may be contacted via Box 638, GPO Brisbane 4001. For up-to-date information on Divisional matters, listen to the WIAQ News and Information Service.

GENERAL MEETING

The August Annual General Meeting of the Division will be held on Friday, 21st August, in the Playground and Recreation Association Building at the corner of Love and Water Streets, Fortitude Valley. The doors open at 1930K and visitors are welcome. As usual, the QSL Bureaux and the book shop will be available at the meeting. An interesting lecture nas been arranged — hope to see you there.

ADMINISTRATIVE REVIEW

Your Council is examining ways of updating procedures so as to lighten individual workloads and to ensure that it spends adequate time considering policy matters affecting future activity and the wellbeing of members.

There are many aspects of Divisional activity that need not necessarily be carried out from Brisbane. For example, at the moment Intruder Watch, Contests and participation in Slow Morse Broadcasts are all carried out by non-metropolitan members. We all have different talents, so if you feel you can assist in any activity, get in touch and help us to help you. There are some areas where it is difficult or inconvenient to decentralize due to practical considerations — we thank Cairns Club for their recent offer of assistance with QTC insert, however Council decided to decline with thanks (there were problems with distance, freight and timing).

INTRUDER WATCH

Bob VK4LG has offered to present a trophy for excellence in IW reporting. The aim of the trophy is to improve the quality and quantity of reports to the VK4 Intruder Watch Co-ordinator Gordon VK4KAL. Bob and Gordon are working out the rules, so why not contact them in the VK4 Intruder Watch Net (Wednesday, 3540 kHz, 2000K)? Help to keep VK4 the premier State in Intruder Watching.

REMEMBRANCE DAY CONTEST

By now you will have brought your station to a high degree of efficiency during the recent Sunshine State Jack Files Memorial Contest. Now that all systems are "go" — get ready for the RD Contest on 15th and 16th August. Every contact counts and every log is important — it's about time VK4 won again, so we want a scoring log from every VK4 amateur.

NORTH QUEENSLAND CONVENTION

For travelling amateurs Queensland now has a chain of 2m repeaters up the coast (Gold Coast, Brisbane, Sunshine Coast, Bundaberg, Gladstone, Rockhampton, Mackay, Townsville and Cairns). Why not work through them all on your way to the North Queensland Convention to be held

in Townsville on 26th and 27th September. For more details contact the TARC, via Box 964, Townsville.

JOTA

It is time now for you to contact your local Scout troop and make arrangements for this year's Jamboree on the Air.

MEMBERSHIP

By now all clubs will have received membership forms and recruiting information. If you know any non-members, why not introduce them to the forms? Responsible amateurs should all be members of the Institute.

1982 RADIO CLUB WORKSHOP

Motions for this meeting are now being sought from all affiliated clubs. This is your opportunity to input ideas and thoughts on the policies and aims of the WIA in VK4 and Federally. Put your thinking caps on and contact your club secretary.

UP-TO-DATE NEWS

Listen to the Divisional News and Information Service each Sunday morning, 0900K, on most bands. Remember, the news is only as good as the news input from members, so keep the News Co-ordinator (Jack VK4AGY) informed of amateur happenings in your area or club. ■

THE WA BULLETIN

Hi there! Here we are again, trying desperately to catch up on old man time.

At the Annual General Meeting several amendments were made to our Memorandum and Articles of Association — Constitution to you! These have now been officially registered as follows:—

Article 1: The number of members of the Institute is declared not to exceed 1000.

Article 22: A Federal Councillor and Alternate Federal Councillor shall be elected annually by the Council in sufficient time for the Federal Convention.

Article 28: Membership of the Institute shall be of two grades as follows:—

(a) **GRADE "A" MEMBERS** — bona fide experimenters or those interested in the scientific study of radio communication or electronics who shall have attained the standard equivalent to that necessary for the issue of either a Limited Amateur Operator's Certificate of Proficiency or a Novice Amateur Operator's Certificate of Proficiency. An Associate Member not possessing either certificate, who has rendered valuable service to Amateur Radio, after not less than five years as an Associate Member and after nomination by two Grade "A" Members, be granted voting rights. The Council shall have power to investigate qualifications of all applicants for membership in Grade "A" and its decision shall be final.

(b) **GRADE "B" — ASSOCIATE MEMBERS** — Those persons interested in the objects of the Institute who are not eligible for membership in Grade "A".

Before you start hacking this issue of AR to pieces to insert these amendments into your copy of the Constitution — **don't.** Copies have already been printed and will be inserted in AR next issue.

For those of you who have not been to a meeting for some time, it might be interesting to note that a new format will be tried as from the July General Meeting. The usual "cuppa" will now be available BEFORE the commencement of the meeting, so come along and have an eyeball with your mates, collect your QSLs (don't forget to queue down the left-hand side of the hall) and then settle down to enjoy the business side of the meeting.

What a busy crowd this WA Repeater Group is, undertaking quite a comprehensive project at Tick Hill, east of Perth, but I'd better not elaborate or steal their thunder as a full story will soon unfold.

Quiet a lot of discussion lately about the forthcoming RD Contest, so look out all you other Divisions!

The WICEN group continues its good work, the communications caravan providing a challenge to the skills of various members. Working bees are the order of the day, and some exercises in the near future, too. Good news for the group is that the concrete base for a free-standing 100 ft. — oops, wrong measurement — tower has just been cast at SES Metro HQ, and good to see WICEN Co-ordinator Syd Jenkins and SES Area Co-ordinator Ken Hutchison making the scene in the daily newspaper with the VK6WIE call sign prominently displayed. Bewdy!

Ten out of ten for the YL's Luncheon Group who on June 25th celebrated their second anniversary. Congratulations, ladies.

That loud snorting noise in the background probably originates from the Old Timers' Group, who have also been meeting regularly and who extend a warm welcome to visitors with the old advertising slogan "See you at the Savoy".

As previously promised herewith some news of the newly formed Peel Amateur Radio Group — PARG. The name Peel originates from the Peel Inlet and encompasses an area from Rockingham south to Waroona and east through Pinjarra to Dwelingup. Already the Group boasts 17 members. The office-bearers are: Chairman, Lance VK6LR; Vice-Chairman, Jack VK6NLS; Secretary/Treasurer, Ann VK6AG; WICEN Co-ordinator, Pat VK6PH.

Annual subscription is a modest $5 and meetings are held on the first Friday of each month, commencing at 7.30 p.m. The meeting place is on a round robin basis, being held at the QTH of each member in turn. July meeting will have as an added attraction an introduction to "fox hunting" for new members.

For those interested the Group also conducts a net on 10 metres after the Sunday news broadcast. The time 10.15 a.m., the frequency 28.380. Also on Saturdays evenings at 2000 hrs. on 3.55 working crossband to channel 40 on 2 metres. It is hoped to have an ATV net operational soon.

Talking about 10 metres, it is proposed to operate the new Perth beacon on 28.264 with a power of 150W, it is to be sited at the QTH of VK6QB.

Hey, don't forget to get into the habit of using the Institute's new postal address. It is PO Box 10, West Perth 6005, WA. The old Box N1002 may also be used until next March, but please use the new one and save the Secretary the frustration of looking for a parking spot in the city.

Cheers for now — see you next issue.

Ross Greenaway VK6DA. ■

QSP

SATELLITE WAC

"You can't work all continents via satellite" was a challenge to Nick W0CA. Having determined it could be done it took Nick 13 months to do it using 10W of power. As a result he qualified for the IARU WAC Award on production of the QSL cards concerned. He was the first qualifier for the award and as a result IARU/ARRL HQ is planning to issue special plaque awards to the first 10 amateurs qualifying for the IARU WAC via satellite endorsement for satellites orbiting at no greater altitudes than 1500 miles.—QST March 1981. ■

MR. AVERAGE AMATEUR

A survey carried out for the ARRL by the Florida State University in 1980 amongst 8895 amateurs in the USA and Canada from a random selection in the RA Callbook was reported in QST March 1981. The first mailing produced a usable return of 48.7 per cent from the USA and 63.1 per cent from Canada and the reminder to those who did not send in a return raised the response figure to 62 9 per cent overall (71 per cent for Canada). 147 questions were asked grouped into 36 topics and this issue of QST tabulates some of the results for the use of their Long-Range Planning Committee. Looking at overall averages (Canadian figures in brackets) it appears that the US expenditure on amateur gear was $1651 ($2073) per station, with an annual expenditure of $308 ($347). The "typical" amateur spends 6.1 hours per week on amateur radio and his on-air time is spent rag-chewing, mostly on HF, but followed closely by VHF, FM and, believe it or not, HF CW. If an amateur radio issue comes up which he thinks is important he will express his opinions on the air (58 per cent) or at local club meetings (34 per cent). Amongst non-ARRL members 41 per cent said they just did not bother to join or re-join, 28 per cent said they were inactive, 24 per cent thought ARRL dues too high, and 23 per cent thought QST not as good as some other magazines. Some 77 per cent of ARRL members said they were basically satisfied with ARRL but in the remainder, complaints showed reasons for dissatisfaction as the need for ARRL to do some public relations, in solving problems at the local level and in representing amateur radio at the national level (28 per cent of members thought ARRL's representations before FCC, etc., were "excellent" and 35 per cent rated them "good"). 46 per cent of the US amateurs surveyed were ARRL members (32 per cent in Canada), the highest percentages being recorded from the old-timers (pre-war licensees), 49 per cent said they first got involved in amateur radio through a friend or co-worker, 39 per cent from short-wave listening, 26 per cent from a book or paper, 20 per cent through a relative and 16 per cent through a local or school radio club. Only 11 per cent thought the CW requirement should be dropped and only 6 per cent of the overall respondents were female. ■

YOU and DX

Ken J. McLachlan VK3AH
PO Box 39, Mooroolbark 3138

We welcome as our new DX editor Ken McLachlan, VK3AH, who is well known on the HF bands, particularly 20 metres.

Writing the monthly column is an onerous task, and we express extreme gratitude to Nick VK6XI for his assistance over the last 12 month. The success of this column depends a lot on the input of readers, and we would appreciate as much assistance as possible to ease the load from the DX Editor.

Observations and information should be forwarded direct to Ken, VK3AH, P.O. Box 39, Mooroolbark, Vic., 3138. Many thanks for stepping into the hot seat, Ken.

Now over to Ken's report. — (VK3UV)

A couple of months ago in this column Nick VK6XI announced that his twelve month stint was coming to an end and asked for someone to take over his duties.

As usual in these situations, there were no volunteers and to keep the segment in the magazine I am willing to correlate as much information that is received and write it up together with my own observations.

It is virtually impossible for one person to monitor both modes in all the bands between 160 and 10 metres. Therefore I appeal for further assistance from short-wave listeners, novice and general class operators alike who listen to the bands to jot down the interesting call signs and frequencies, together with times, etc., and let me have them so they may be shared by others interested in the DX scene.

BURMA

Band conditions in June have generally been very good and particularly on 20 metres phone (where I spend 70 per cent of my time). However the surprise of all time was the appearance of XZ Burma, which has been inactive for a long time.

Jin JA6BMK appeared on 15 metres in late May, using a TS130S and a dipole. Jin had about 4,000 QSOs, mainly orientated to North America and JA, Europe and the Pacific getting very little of the action.

On leaving Burma, Jin left his equipment for Sanplo, a local, to use and he appeared early in June using the same call.

He runs a list operation with JA8BMK in "control" on 14.170 and 14.225 MHz, and it is quite apparent that the VKs and ZLs are left out in the cold, with most of the operation being directed towards Stateside and JA. One frustrated ZL waited some 20 hours to get his call registered on the list.

For what it is worth, JA8BMK is also the QSL Manager and has forwarded a copy of the original licence to ARRL for accreditation. For those lucky enough to work him we hope it will be a good one. However with the soliciting of donations and equipment that is going on, Newington may have other ideas.

Just prior to the deadline for this column Sanplo had erected a Nagura 351 5 element tri-bander beam and it is fixed on the eastern States of America; also W7PNO had donated a Clipperton GL1000 linear amplifier which was being airfreighted out — therefore a big signal.

Perhaps some "VK" or "ZL" should donate a rotator and we might get a slice of the cake some day.

DX JOTTINGS

Warrick ZL3AGH/A is fairly active despite rotator problems. Warrick is scheduled to stay on Campbell until November, but has asked for an extension to April 1982 which, if granted, will allow him to have a few months holiday before going to the South Pole for twelve months. QSL to Art ZL2HE.

WILLIS ISLAND

Dave Shaw VK9ZD, after an extended stay on Willis Island, left in late July, and will be replaced by VK9ZG. QSL also to Steve VK3OT.

Dave will be returning to Victoria for a holiday, after which he will take up a new position and promotion to Equipment Training Officer at the Melbourne Weather Bureau.

Congratulations, Dave, and best of luck.

TOKELAU

The Tokelau DXpedition operated by Jim P29JS, now VK9NS signing ZM7JS, Ray VK2BKD, signing ZM7KD, and Harry VK2BJL, using the call ZM7ZR, got off to an early start. Judging by QRM when they were working split, it was a huge success and should take it off the much wanted list for a time to come. There were a few grizzles from Europe that they weren't getting enough of the action. QSL in each case to the home call.

Those lucky enough to work Arthur G3JKI/5A and QSLed direct to Ann F6CYL should have their cards by now. However don't submit them yet for ARRL DXCC as Newington are still awaiting further documentation.

Don VK2DXH, ex VK2VPM, a very keen DXer and antenna enthusiast, has erected a fine beam which is up about 14 metres above the ground.

The beam, which gives Don such a big signal, comprises 4 detla loops on 10 metres, 5 yagi elements on 15 metres and 3 yagi elements on 20 metres. All up weight is around 67 kg and, Don, that must be some tower to keep it up there.

Those still wanting some of the rarer islands in the Antarctic may find some interest in the following listings:—

South Shetlands: HF0POL (7001/00Z), VP8AEO/CE9 (28.550/00Z).

South Orkneys: VP8ZR (21.240/20.00Z), LU1ZA (14.220/01.00Z).

South Georgia: VP8AEN (14.250/19.00Z).

South Sandwich: LU3ZY (14.220/01.00Z).

Most stations are using the commercial transmitter, so you should be able to hear them, and don't be despondent if they can't match the report you give them.

Nice to hear VK3UX, VK4DX and VK7DK operational again amongst the DX after having a spell in hospital. You were missed by many, gentlemen.

Vic T12VVR, who often operates T19FAG and has given many a DXer a new country, reports that BY1PK could be operational in August 1982. However don't overlook the Trade Fair in China scheduled for September; this could bring activity.

COMING EVENTS

St. Peter and St. Paul Rocks — PY0.

PY0AQ has indicated that he will be taking a group of operators to St. Peter

and Paul Rocks in early August. They anticipate to work all bands using usual DX frequencies, both CK1 and phone.

SAN FELIX CE0X

Eventually it looks like activity from this area, which is very high on the wanted list. San Felix houses a military installation which is controlled by the Chilean Government, and it is very difficult to obtain a permit to operate. However permission has been issued to SV1BV, SV1IW and CV1JG. The call sign will probably be W1DQ/CE0X and the planned duration will be between five and ten days. This will bring smiles to many faces, bigger smiles however if they work them, and if you're lucky QSL to the individual operator. Good luck.

Heard around the bands and their QSL Managers:—

T5TI, QSL Alex I0SSW.

Paul C3IVK, QSL F6EXV.

VU2BBJ, QSL ASU, Box 21, Maduri, India.

G3NUV/CE0, QSL Elliot G3NUV.

JA1JWP/JA1, QSL Hiro JA1JWP.

JT0WA, QSL OK1DWA.

George F0WV/FC, QSL ON4TJ.

XT2AT, QSL OE8ENK.

Anthony 9L1GA, QSL Father A. Guitta, Catholic Mission, PO Box 1, Makeni, Sierra Leone, Africa.

Les 7Q7LS, QSL Box 24, Mtaka Taka, Malawi, Africa.

Jim ZL0AAB, QSL VK9NS.

A4XIY, QSL WB2JST.

SV0BV/SV5, QSL PO Box 564, Athens, Greece.

Doug ZL2UW/C, QSL ZL2UW.

Bob YS9RVE, QSL WA0JYJ.

Jin JA8BMK, QSL PO Box 150, Asahigawa 070-91 **(Call Book spelling incorrect).**

DL7RT/EA6, QSL DL7RT.

Desocheo KP2A, QSL AF2C.

SP2AOY/OA4, QSL SP2UU.

VQ9QA, QSL N3QA.

N6YIC/VP2A, QSL N6NK.

XN3LSS, QSL VE3GCO.

Before concluding I would like to thank Nick VK6XI on behalf of all the DXers who enjoyed his columns as I did. Thanks for the time spent, Nick.

Till next month good DXing.

Listening around the CK1 bands with Eric L3-0042.

40 METRES

CM6AL, KP4KK/DUZ, Desecheo KP2A, YO3AAS, YV5HL, ZM7JS and 5Z4YU.

20 METRES

DL7RT/EA6, FG7AM, FM7AV, HI3PC, HP1XEK, JT1BH, PZ9AB, VP2AZG, N6YK/VP2A and VQ9OA.

15 METRES

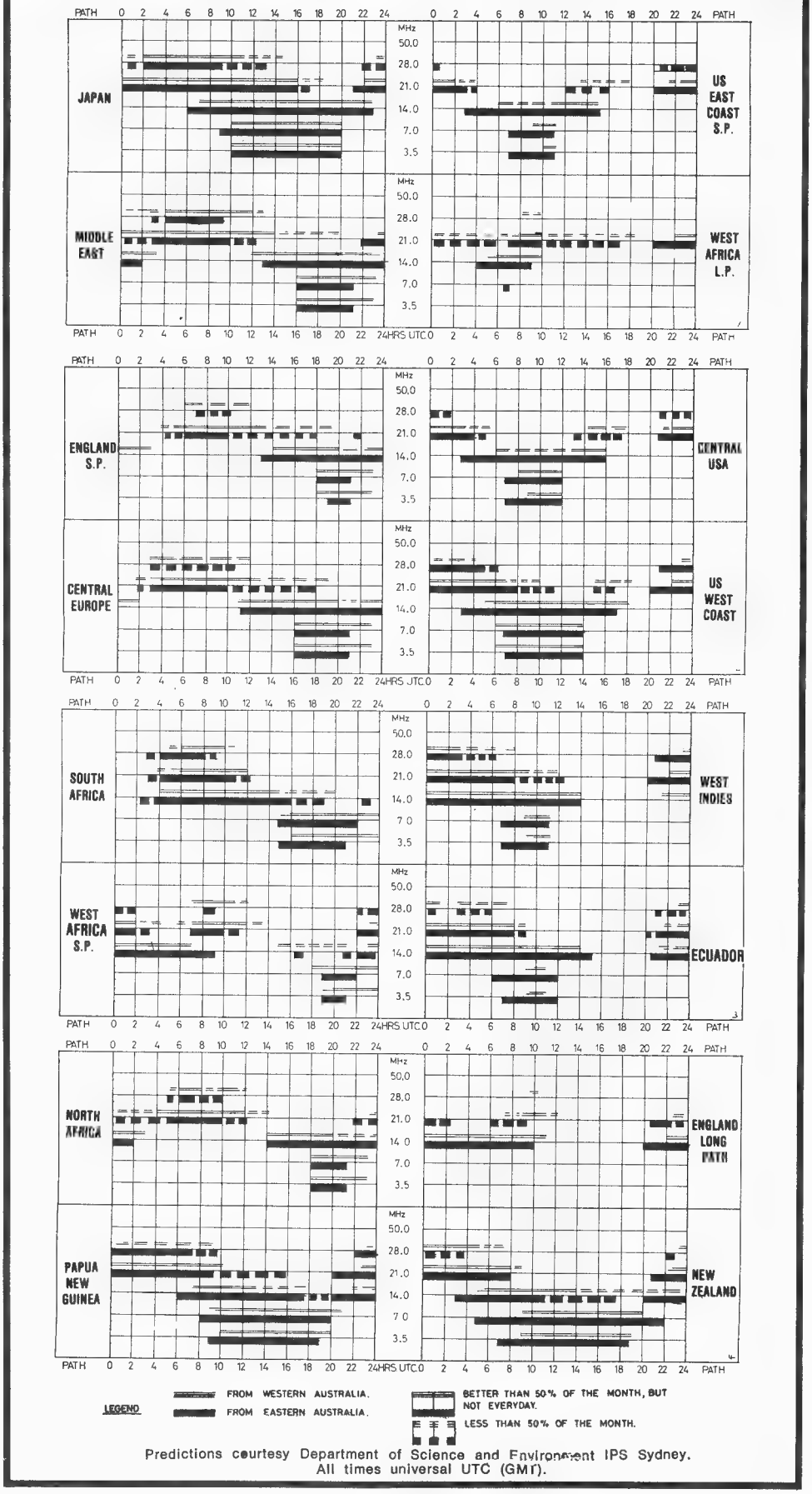
EA6DD, HI8XGE/YV5, KM3AB, K6XT/NH9, SP2AOY/OA4, W6TOZ/AM, YC0BRT, VK2BGD, ZM7JS and ZL2UW/C.

10 METRES

FK8DD, FO8HA, VS5RP, YC0BRT, YC0VK and YU5AIE. ■

IONOSPHERIC PREDICTIONS

Len Poynter VK3BYE



Predictions courtesy Department of Science and Environment IPS Sydney.
All times universal UTC (GMT).

National EMC Advisory Service

Tony Tregale VK3QQ
Federal EMC Co-ordinator

This is the age of the electronics boom. During the next few years there will be more and more electronic gadgets and devices poured on to the domestic market. The forecast for the last half of this decade:—"Appliances respond to vocal commands: Total ambience control for home audio systems, linked to computer data network: TV screens grow to wall size: Kitchen computers and holographic TV appear" — to name but a few.

Amateurs should, for their own safety and peace of mind, take the basic RFI precautions. No matter how good your amateur equipment, you should take the necessary steps to ensure that your own domestic equipment is clean and free of RFI.

Consider the following cases:—

(a) This case was brought by a neighbour who was experiencing breakthrough of the amateur's HF band transmissions to his audio and television equipment. Despite evidence from the P. and T. investigator that the station was being operated in accordance with the licensing regulations and that the trouble lay in the design and/or construction of the neighbour's equipment, the neighbour decided to claim reimbursement or, alternatively, compensation for alleged nuisance caused. The final outcome was that the plaintiff's music centre was cleared after a simple modification carried out by the maker's technical liaison officer. The same advice was given by the amateur to the plaintiff in the first instant, but he chose to ignore this advice.

(b) This case reached the legal stage, and the results could have far reaching implications for amateur radio. As a result of a suit filed by a neighbour an amateur was ordered to cease operating his station because of TVI and stereo interference. The problem had surfaced a year earlier when, without previous warning, the amateur received a letter from the neighbour's solicitor, stating that he would be sued if he didn't stay off the air. Since the suit began, technical experts for both sides have agreed that a proper TV antenna plus filters would solve the TVI, and a properly designed stereo system would eliminate the problem in that area. This suit has so far cost the amateur $7000, and an appeal is estimated at another $10,000. However, this United States amateur is willing to continue the fight if there are indications that the amateur movement is behind him.

Law suits and legal battles can be very expensive items in any country. Most amateurs would agree that the money could be better spent.

One of the aims of the WIA National EMC Advisory Service is to try and ensure that an interference problem does not get to law.

Very good value for money should be the new Interference Book from ARRL by William R. Nelson WA6FQG; Editor, William I. Orr W6SAI; 247 pages; US$8.95. "This timely handbook covers every type of RFI problem and gives you the solutions based upon years of practical experience. It emphasizes amateur radio, CB radio and power line FRI problems — and how to solve them. Power line interference is covered in depth — how to locate it, cure it, work with the public, safety precautions, and much more. TVI, AFI, telephone, CATV, computer problems. Case histories and profusely illustrated, this handbook is packed with practical authoritative information. Written by an RFI investigator with 33 years of experience."

This most useful addition to your technical reference library should be available from the Federal office in late September. ■

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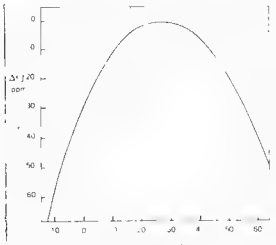
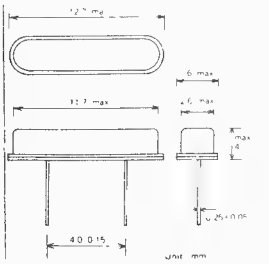


SPECIFICATIONS

1.	Nominal Frequency	32.768 KHz
2.	Frequency Tolerance	+30 ppm/28° +1°C
3.	Drive Level	1uW max.
4.	Series Resistance	31 0 kOhms max
5	Q Factor	40,000 min.
6.	Parabolic Curvature Constant	Less than —0.04 ppm/°C (Refer Fig. 1)
7.	Turnover Temperature	28 0°C +5°C
8	Capacitance Ratio	700 max
9.	Storage Temperature Range	—30°C +80°C
10	Operating Temperature Range	—10°C +60°C
11	Aging rate	Less than +5 ppm/year
12.	Shock	Less than 5 ppm for 50 cm Hammer Shock Test
13.	Package Size	



DATA SHEET AVAILABLE. ALSO AVAILABLE CRYSTAL UNITS FOR QUARTZ CRYSTAL CLOCK.

WICEN

R. G. HENDERSON
Federal WICEN Co-Ordinator

MESSAGE FORMS

Last month I indicated that I would provide a message form based upon the SES/Civil Defence form and suitable for general amateur radio use, including third party messages. Keen WICEN operators will note that unnecessary boxes on the standard SES form have been blanked out without destroying the standard layout.

It is strongly recommended that this message format be used to avoid confusion in emergency situations.

WICEN HANDBOOK

My deputy, Ray Roche VK1ZJR/4, has noted the need for a National WICEN handbook, setting out those matters which do not vary from State to State and also providing guidance for Divisional and other co-ordinators. Ray reports that photocopies of earlier AR WICEN columns are popular for voice procedure training.

I have reviewed the WICEN column material from the past few years of AR and find that, with some additions on the organization, management and duties topics, it provides the basis for a handbook. It's my intention therefore to produce those missing sections, initially as AR columns, and compile a master copy of the handbook. It's here that the problem starts, for the master copy will be a cut and paste up of previously published columns and will probably need some editing before printing; and that printing can only be done if there is sufficient demand to make it a cost effective venture.

The draft table of contests is as follows:

PART 1

Aims of WICEN.
Responsibilities, duties of Co-ordinators.
Regulations.
Affiliations — accreditations — powers of command.
Call out procedure.
Emergency plans.

PART 2

Simplified guide.
Date-time groups.
Voice procedure.
SIGCEN procedure and logs.
Message writing.
Map reading.
Planning and exercise.
Mobile/field station check list.
Registration/equipment records.

WICEN ACTIVATION JUNE 1981

At the time of writing these notes it is too early to analyse the WICEN activation in NSW as a result of failure of Telecom circuits, however it is useful to note that WICEN and the National Third Party Net existed side by side, each servicing their respective clients.

A recent VK2 braodcast summarised the situation well, each has their role; in WICEN's case it's to support the disaster/emergency service authorities; in this situation the NSW police and the "pool of trained operators with equipment were deployed" for just that purpose. ■

MESSAGE FORM

NOTE: Shaded areas are for COMMS use only.

PRECEDENCE | DATE | TIME | GROUP | ORIG NO

FROM

TO

NAME | SIGNATURE | DATE

FOR OPS USE	R	DATE	TIME	SYSTEM	OPERATOR	D	DATE	TIME	SYSTEM	OPERATOR

MESSAGE FORM Number

FOR COMM CEN/SIGNALS USE

PRECEDENCE | DATE TIME GROUP | MESSAGE INSTRUCTIONS

FROM

TO

ORIGINATOR'S NUMBER

FOR OPRS USE	R	DATE	TIME	SYSTEM	Operator	D	DATE	TIME	SYSTEM	Operator	SIGNATURE

MAGPUBS

Still handles and arranges for stocks of many reference books, WIA publications (such as log books and call books), WIA badges and subscriptions to VHF communications and Break-In, as well as normally holding stocks for re-sale of back issues of the former.

Current subscriptions rates:—

VHF Communications —

By sea mail . . . $8.20
By airmail $12.40
Break-In $14.50

All for one year post paid.

1981 WIA CALL BOOK

An issue packed with reference material which is a **must** in every shack. Expected to be ready late August or early September. Cover price $3.95, plus postage.

INTERFERENCE

A new book on this problem area is expected to be published shortly by Radio Publications Inc. It is edited by Bill Orr W6SAI, and a preview of the contents indicates wide coverage of the subject and much practical advice. Price should be around $6 to 67 per copy. Another **must** for every shack.

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SPOTLIGHT ON SWLing

Robin Harwood VK7RH
5 Helen St., Launceston, Tasmania 7250

Well, August has come around again, and that means Remembrance Day is here again. This year's contest is scheduled for August 15-16. All the pertinent details are found in the July issue of Amateur Radio. I would urge all SWL participants to read the rules carefully. I am hoping that many of them will be participating in this annual contest which is held in memory of those amateurs who made the supreme sacrifice in the Second World War. Some of you will possibly be assisting hams as log keepers, and know the comradeship and enjoyment experienced during the 24 hours of the contest.

Industrial disputes and strikes have certainly been in the headlines over the past couple of months. Two major international broadcasters have been plagued by recurring industrial trouble, namely Radio Canada International in Montreal and Kol Israel in Jerusalem. Radio Canada International has been without any newscasts since October 1980 due to a journalists' strike, and in May the technical operators at the studios of all CBC stations walked out. As a consequence, there are no programmes being aired from the studios.

The International Service has been suspended and it does appear that it will be a prolonged dispute. Do not be surprised if RCI's programme policies alter when and if they come back on the air. The CBC, the parent organization similar to our ABC, has been in conflict with the Federal Government in Ottawa for many years over funding for the International Service, and because of the prolonged absence only network programming for Canadians abroad could be aired.

Meanwhile, the technicians at the transmitter site at Sackville, New Brunswick, who are not involved in the dispute have about exhausted all of their standby programming, and I am informed that the Sackville relays of the BBC World Service and Deutsche Welle, as well as the Daventry relays of RCI, have been suspended as well.

Radio Kol Israel in Jerusalem has been plagued by wildcat strikes as well over recent weeks. One does not know from day to day whether there will be a news broadcast or not. If it is not the journalists on strike, it is the turn of either the announcers or the studio technicians. Israel has a galloping inflation rate and there has been a rash of disputes and walkouts by the employees in the Public Sector, trying to catch up. Meanwhile, the Israeli Government has been putting out SSB feeders around 14.7 and 18.3 MHz with news bulletins from the Israeli Army Network, which is unaffected by the industrial conflict within the Israeli Broadcasting Authority (IBA).

Recently, as I was tuning across the 25 metre band, I came on to one of the rarer international broadcasters. It is Radio Ulan Bator in Mongolia, and can be easily heard at 1220 GMT on 12070 kHz, which is just above the allocated band. The station's English programme lasts for 30 minutes, Monday through to Saturday, and is also aired from 1715 to 1745 GMT. It is at quite good strength as early as 1100 GMT, when the Chinese language programme is aired, and at 1130 when a Mongolian transmission, presumably for the sizable Mongol minority within the People's Republic of Chine, goes out. From when the Mongol transmission ceases and the commencement of the English programme at 1220 no modulation is present on the carrier. However, I did hear Radio Moscow's interval signal underneath the conclusion of the Mongol programme, which leads me to wonder if the source of the transmission is also within the confines of the USSR, similar to many of Radio Kabul's outlets.

Incidentally, you will find that the announcers have a very rapid-fire delivery, and you will have to listen very hard to follow what they are saying. The programmes are very pro-Moscow and are slanted heavily against their big neighbour, which of course is China.

Many years ago, in 1973 in fact, I worked my first Mongolian station on 14 MHz CW. It is now over eight years since that QSO, and although I sent a card via the QSL Bureau, I have yet to get confirmation of JT. More experienced DXers have told me if and when it turns up, I could be waiting for up to 10 years. The majority of hams within Mongolia have been mainly from East European countries involved in developmental projects in the remoter regions of the country, and have probably left the country by now to return to their native lands. My only hope being that they did keep a log, and will eventually dispatch QSL cards. Unfortunately, JTs are very rarely heard, and occasionally can be heard working UAs. I suggest you ask if they have a home call. If they don't, it might be a native Mongolian, in which case it would have to go via the Bureau anyhow. Anyway, Radio Llan Bator does confirm their transmissions within three months and seem anxious to have listener feedback to their programmes.

Radio Australia has re-introduced a programme specifically for those interested in shortwave communications. Called "Spectrum", the first edition was broadcast on Sunday, July 5th. It is proposed to be aired on the first Sunday of the month and the only two releases that I am aware of are at present 0610 and 1210 hours GMT. The programme's compere is Dick Speekman, who formerly was at Radio Nederland and was at one time host of the "DX Jukebox". It is being co-ordinated by the Australian Radio DX Club and the Victorian Branch of the Southern Cross DX Club, both located in Melbourne. The dates for the next broadcasts will be August 2nd and September 5th.

Although possibly too late for inclusion in this issue, on the weekend of August 1-3, handicapped and disabled amateurs throughout the world will endeavour to make contact with each other, and with other amateurs as well. This idea has come from members of the Exeter Amateur Radio Society in Devon, England. As part of the International Year of the Disabled, the Devon Sports for the Disabled Association will be staging an international meeting at St. Loy's College for Training the Disabled in Commerce and Industry.

The Exeter Amateur Radio Society will be operational from the College grounds concurrently with the sports gathering, with two special calls, GB2IYD and GB8IYD, and will be on all bands from 3.5 MHz through to 2 metres from 0900 to 2000 hours GMT. The participating stations in this weekend will call "CQ DE IYDP . . ."

The Handicapped Aid Programme in Australia has commenced two amateur nets to allow disabled hams to call in and chat, as well as those volunteers who wish to provide technical and practical assistance and advice. These monthly nets have been divided into two — one primarily for international contacts, and the other for local communications. The International HAP Net will be held on the first Sunday of the month on 14290 ± QRM at 0700 GMT, and the second net will be on 3610 kHz on the third Sundays at 1200 GMT. In both cases I will be acting as net control station for the time being. The respective dates are August 2nd, August 16th, September 6th and September 19th.

Well, that is all for this month. All the best in the RD contest. 73 and good listening! — Robin L. Harwood. ■

INTERNATIONAL NEWS

Resulting from experiences in recent earthquakes in Italy, the ARI (Associazione Radioamatori Italiani) has felt the need for an exchange of opinions and experiences under an administrative and operational point of view about the important problems of emergencies.

Consequently a meeting has been arranged from 9th to 13th September in Cefalu (Cicily), to be attended by as many amateurs (especially Region 1) as possible.

The venue is the Hotel Costa Verde. The WIA regretted inability to attend but provide ARI with details of our WICEN organisation.

Details of the 22nd All Asian DX Contest arrived a little late, as the phone section was on 21/21 June, but the CW section is from 00.00Z on 22nd August to 24.00Z on 23rd August. This contest is managed by JARL.

The WIA voted in favour on the admission of the Fiji Association of Radio Amateurs to IARU Region 3 organisation. ■

ALARA

AUSTRALIAN LADIES' AMATEUR RADIO ASSOCIATION

ALARA extends sympathy to Austene VK3YL and OM on the loss of their only son, and to Heather VK2HD and OM Rod on the loss of Rod's son recently.

The skeds on Monday nights are very well attended now, with 13 YLs on sked last night, 29th June. All but one with her own call and Helen is studying for her novice call — good luck! After the net was closed a number of girls went to CW to gain points for the ALARA award on CW. Mavis VK3KS and Freda VK2SU have CW skeds on 7040 MHz Monday, Wednesday and Friday at 0230Z and would welcome any YL to join in, so girls, get out your key, dust it off, and give them a call, it's good fun. If you are a novice and want some CW practice ask on a Monday night and we will organise a frequency and time to suit you all.

ALARA's aim is to foster amateur radio among YLs, so members will do all they can to help with any problems you may have and also offer encouragement. If you are thinking of sitting for your own call, get your OM to call in for you and you will be warmly welcomed. It is a great achievement to go back to study after a number of years and pass an exam and be able to join in such an enjoyable hobby. You meet so many people from all walks of life, all with the common bond of radio. And as well the bonus of armchair travel, too. Stamp collecting is also a sideline enjoyed by many YLs.

THE STORY BEHIND THE GREETING "33"
From BYLARA Newsletter, June 1980.

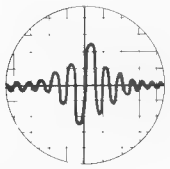
One things which puzzles some YLs and most OMs is the meaning of the YL greeting "33". This was originated by CLARA member W8KYR now W2RUF (silent key) and means "Love sealed with friendship from one YL to another YL" as the formal definition. Warmer than the conventional 73 but does not encroach on the YL/OM greeting 88.

I have had several queries on this since it appeared in AR. No, it has nothing to do with age!

Good luck to all who are sitting for exams in August, and look forward to meeting you on air soon.

33/73. Margaret VK3DML. ■

IF YOU'RE NOT BUYING AMATEUR RADIO ACTION



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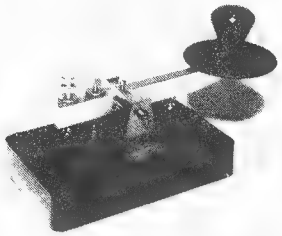

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AROUND THE TRADE

Vicom International Pty. Limited has announced that it has moved its Head Office to new premises located at 57 City Road, South Melbourne.

The Company has announced the move as part of its expansion program into military and satellite communications.

The new premises will cover 8,000 sq. feet and include management, warehousing and computer operations.

Vicom has enjoyed record profits and sales for the last financial year and is expecting the growth rate to continue for the next twelve months. ■

750th JIL SX-200

GFS Electronics Imports of Mitcham, Victoria, recently delivered their 750th JIL SX-200 microprocessor controlled HF/VHF/UHF programmable scanning monitor receiver to be sold in Australia since its initial release in May 1980.

Shown receiving SX-200 number 750 from Greg Whiter, proprietor of GFS Electronic Imports, is its purchaser Mr. Peter Walsh of Glenroy, Victoria. Peter, a blind radio amateur and avid shortwave listener, will be adding the SX-200 to his already comprehensive range of radio equipment.

The JIL SX-200's popularity has, for the most part, been due to its unique design and performance. Covering a frequency range of 26 to 88, 108 to 180 and 380 to 514 MHz, it uses a keyboard entry programming technique providing a selection of over 33,000 channels available to the user. Up to sixteen frequencies may be placed in a non-volatile memory to be later selected individually or scanned in part or total. Scanning can be carried out over a specific frequency range by programming upper and lower frequency limits into the SX-200. Unique squelch circuitry is employed, having three modes, allowing the receiver to (a) stop scanning with open audio on carrier only, (b) to stop on carrier with closed audio until modulation is applied to the carrier, or (c) not stop at all until carrier and modulation is detected. This feature overcomes the frustrtaing problem that a number of other scanning receivers suffer from, of stopping on carrier only or spurious signals.

A front panel mounted fine tuning control ensures that all Australian allocated two-way radio frequencies are covered. AM or FM reception is possible on all bands. Direct operation from 240 volts AC or 12 volts DC is provided for. Two scanning speeds with three scan delay periods of 0, 3 and 6 seconds as well as a built-in digital clock are available to the user.

One additional useful feature is the inclusion of a squelch triggered output

which may be used to operate a tape recorder or some other form of auxiliary equipment.

The wide frequency range of the SX-200 encompasses a number of useful bands, including the 27 MHz and UHF CB bands, 10, 6, 2 and 70 centimetre amateur bands, low and high VHF as well as UHF two-way bands, aircraft band, VHF satellite band and, with the addition of a small very low frequency converter, the frequency range of 5 to 500 kilohertz.

The SX-200 sells for $499 including sales tax. For more information contact the Australian distributors, GFS Electronic Imports, 15 McKeon Road, Mitcham, Victoria 3132. Phone (03) 873 3939. Telex AA 38053 GFS. ■

CONTESTS

Reg Dwyer VK1BR
PO Box 236, Jamison 2614

We welcome Reg Dwyer as the new Contest Manager and columnist. Reg has taken over from Wally Watkins VK2DEW, who so ably ran this important area for the past three years. Many thanks to both of you.

Contest information should now be forwarded direct to Reg, as above.

AUGUST

8/9	European CW Contest	
15/16	Remembrance Day Contest	AR 7/81
15/16	Seanet Phone Contest	CQ 7/81
22/23	All Asian CW Contest	

SEPTEMBER

12/13	European Phone Contest	
19/20	VK Novice Contest	AR 8/81

OCTOBER

3/4	VK/ZL Phone Contest	AR 5/81
10/11	VK/ZL CW Contest	AR 5/81
17/18	Jamboree on the Air	
24/25	CQ WWDX Phone Contest	

NOVEMBER

1	Czechoslovakian Contest	FCM
28/29	CQ WWDX CW Contest	

EXCHANGES

VK NOVICE

RST and QSO number starting 001.

EUROPEAN DX

RST and QSO number from 001. 3.5 to 28 MHz, 15 minutes minimum working time per band. Only 36 out of 48 hours to be worked in a maximum of three periods.

CZECHOSLOVAKIAN CONTEST

0000 to 2400 UTI. Phone: RS and zone number. CW: RST and zone number.

CATEGORIES

(a) Single operator all bands.
(b) Single operator one band.
(c) Multi-operator all bands.

Results of XXIV Czechoslovakian Contest 1980, VK Region:—

VK3AEW, 1st all bands, 11,070 points.

VK5OU, 1st 14 MHz, 45 points.

The Novice Contest has been rescheduled to September 19/20 to avoid clashes between other major events, i.e. JOTA. Good luck to all participating.

YOUR COMMENTS PLEASE

I have received a suggestion from the VK4 Division that the John Moyle Field Day Contest date be moved to late May. The present date is in the wet months for the Division and creates numerous problems with accommodation, access to operating sites and equipment.

With a view to the contest calender, late May or July are the only months which don't obviously clash with major DX contests. However, I would appreciate your thoughts and helpful suggestions.

Best 73. Reg. ■

Australian Novice Contest

RULES

The contest will take place from 0800 GMT 19th September to 0759 GMT 20th September, 1981, for all novice and full call amateurs.

OBJECTS OF THE CONTEST

To encourage contest working between amateur stations in Australia, New Zealand and Papua-New Guinea during a 24 hour period with special emphasis on contacts with novice and radio club stations.

STATIONS ELIGIBLE

Only stations in VK, ZL and P2 call areas may enter. No stations outside these areas is permitted to be worked or enter a log. Except for radio clubs, no multi-operation working is allowed. Stations in your own call area as well as other call areas may be worked.

CONTEST BANDS

Only the novice allocations on 80, 15 and 10 metres may be used. This applies to full call stations as well. No crossband operation is allowed. Contacts should be Phone or CW.

SCORING — TRANSMITTING:

For contacts with a novice station — 5 points.
For contacts with a radio club station — 10 points.
For contacts with a full call station — 2 points.

SCORING — LISTENING:

Novice/Novice contact — 5 points.
Full Call/Novice — 2 points.
Novice/Full Call — 2 points.
Full Call/Full Call — 2 points.
Any contact with a radio club — 10 points.

CALLING PROCEDURE

Phone call "CQ Novice Contest" and on CW "CQN". Stations may be worked only once per mode per band.

EXCHANGES

Phone, RS report plus three figures. These three figures may start anywhere between 001 and 999, but when 999 is reached you must start again at 001. CW, RST report plus three figures on the previous basis. Radio club stations will add the letter "C" after the number above.

CONTEST SECTIONS

(a) Novice/Full Call Phone.
(b) Novice/Full Call CW.
(c) Listeners.

LOGS

Logs must show GMT time, station worked, band, mode, NR sent, NR received, score claimed and score tally for each page.

A front sheet must be attached showing the following:—

Name of operator, call sign, address, section entered and points claimed.

Logs are to be sent to the Federal Contest Manager, Box 236, Jamison, ACT 2614, and must be postmarked no later than 12th October, 1981.

CERTIFICATES

Certificates will be awarded to the highest score from Novice Phone, Novice CW, Radio Club Phone, Radio Club CW, Full Call Phone, Full Call CW, Listener Phone and Listener CW.

A trophy to be known as "The Keith Howard VK2AKX Trophy" will be awarded to the entrant with the highest aggregate score in the (a) and (b) sections and will be held by the winner for a period of 12 months.

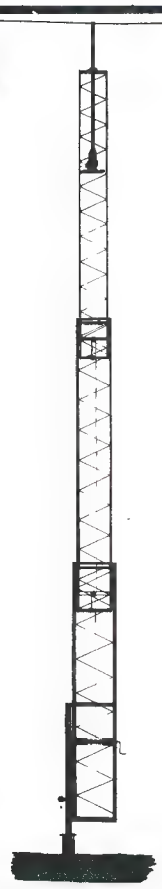
The decision of the Federal Contest Manager is final and no correspondence will be entered into regarding such decision. ■

Amateur Licence Fees

From 1st July 1981 the amateur station licence fee rose from $15 to $17 and the Novice amateur station licence fee rose from $10 to $14. The principle is that the user pays, said the Minister in media release 81/24 of 1st July. ■

TOWERS

32 ft. and 45 ft. CRANK-UP, TILT-OVER AND FREESTANDING



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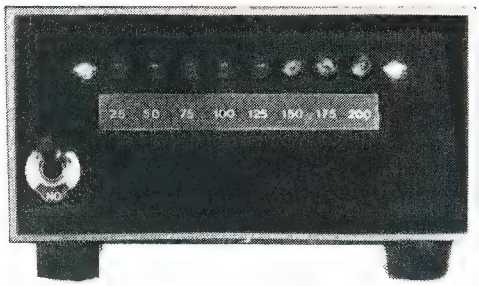

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HF, UHF and VHF ANTENNAS BY ATN

	Gain dbi	Boom	Price
15/11/10 mx			
ATN 20-30-1 rotary dipole			$36
10/11 mx model			
ATN 28-30-3 or 27-29-3	9.7	3.5M	$85
ATN 28-30-5 or 27-29-5	12.0	6.5M	$145
ATN 28-30-6 or 27-29-6	13.2	8.3M	$189
6 mx			
ATN 50-52-5	11.9	3.5M	$90
ATN 50-53-8	14.2	5.5M	$140
ATN 50-53-11	16.2	9.0M	$175
2 mx			
ATN 144-148-8	12.7	2.2M	$50
ATN 144-148-11	14.6	3.8M	$60
ATN 144-148-16	17.0	6.3M	$80
ATN 144-148-13WS	17.3	7.0M	$80
70 cm Model (N Conns)			
ATN 420-470-6	10.2	0.6M	$40
ATN 420-470-14	13.7	1.5M	$55
ATN 420-440-11	16.7	1.85M	$60
ATN 420-440-15			$70
ATN 432-16LB	17.2	3.7M	$80
UHF CB (N Conns)			
ATN 47-5	9.2	0.65M	$42
ATN 47-7	10.2	0.7M	$45
ATN 47-11	17.0	1.7M	$55
ATN 47-15	17.8	2.8M	$65
Amateur TV Translator			
ATN 580-14 (N Conns)	17.5	2.0M	$60

ALL LISTED HF ANTENNAS use top grade 6063-T83 seamless tapered and swaged tubing elements with non-brittle ABS tough weather resistant insulators. Booms are 2" OD (longer booms use guys supplied) and elements taper from ⅞" OD or ⅝" OD depending on length. Longer elements use positive rake on insulators to reduce unsightly sag. The best possible materials have been chosen to suit tough Australian weather conditions.

TRAPLESS TRIBANDERS, 13-30 MHz, Continuous Coverage (Includes new WARC & CB) (LOG PERIODICS)

Model	Elements	Boom (metres)	Gain dbi	Price with Balun 200W	1 KW
13-30-6	6	6.0		$259	$279
13-30-8	8	8.5		$389	$409

TRAPLESS DUOBANDERS, 20-30 MHz, Continuous (Includes new WARC & CB) (LOG PERIODICS)

20-30-6S	6	4		$169	$189
20-30-6L	6	6		$199	$219
20-30-8	8	8.5		$279	$299

MONOBANDERS — For 14 and 21 MHz

14-14.4-4	4	1	10	$239	$259
21-21.5-4	4	6	9.9	$179	$199
21-21.5-5	5	8	11.2	$269	$289

Also available power dividers/couplers, quarter wave sleeve baluns and matching harnesses for stacks of two or more arrays; also 200 W 1:14 4:1 baluns and insulators for homebrew or for Oscar.

ATN ANTENNAS

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- 1 to 2 Watts in — 15 to 30 Watts out — Excellent for HTs
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SPECIFICATIONS

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RF Power In	200 mw to 15 Watts
RF Power Out	80 Watts nom. (10 in - 80 out)
Modes	SSB, FM and CW
Receive Preamp	10 db gain min. 2.5 db ± .5 db noise figure
DC Power	13.6 VDC 10-12 Amps
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10W IN — 80W OUT

Amateur Net $239

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Other features:
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LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

P.O. Box 332, Currie,
King Island, Tas. 7256

The Editor,
Dear Sir,
Having seen the advertising war in the competitor's magazine I have been pleased that this magazine has steered clear of doubtful advertisements until the June edition, where a major company had a full page ad. offering massive discounts on equipment.

Upon receipt of the June issue I saw the ad. and immediately contacted one mentioned agent and was told that he (the agent) had not been informed by the head office and no such stock was available at the advertised price (this was on 2/6/81).

Thus I request that to maintain the high standard of ads in AR the following checks be made: That any equipment advertised must be available by the publication date (this does not apply to private "ham ads" for obvious reasons). That any company practising bogus tactics should not be allowed to desecrate the pages of AR. Honesty and service to amateurs MUST override quick revenue earning!

Another good idea would be to ensure that the PRICES BE ALWAYS SHOWN not the "super tx/rx for S11??" as sometimes seen

Applying the above criteria will ensure honesty is maintained and the pages of AR are carrying open, frank and reliable advertising.

Yours,
B. P. Dilworth VK7BD. ■

EDITOR'S NOTE
It is the advertiser's responsibility to ensure that his advertisement complies with the provisions of the Trade Practices Act. Refer to the WIA disclaimer on page 3 of each issue.—Ed.

P.O. Box 50,
Sandgate, Qld. 4017
11th June, 1981

The Editor,
Dear Sir,
The Intruder Watch Service (IWS) is a service instituted by the Executive of the Wireless Institute of Australia (WIA). Appointments to the more senior positions in the IWS are made by the Executive. State IW co-ordinators are appointed by the individual State Divisions of the WIA. All positions are honorary, with operating expenses met from Executive funds. In the case of Queensland, the Division has met some additional expenses for the sake of expediency and encouragement of the service.

The aims of the IWS appear to be:—

1. Encourage amateurs and shortwave listeners to regularly submit accurate and detailed reports about intruders' transmissions on the amateur bands.
2. Education of observers and potential observers through Amateur Radio articles, personal instruction and through regular nets.
3. Presentation of intruder report summaries to the Department of Communication for possible action by the Australian Government.
4. General co-operation with DOC in regard to intruder matters.
5. Exchange of intruder information with the IWS of other nations.

For many years the IWS has provided a steady stream of intruder complaints to the Australian communication authorities. It seems that up to, and including the present time, these years of reports have not been acted on by the Government. No doubt there will be found isolated instances of action, but this cannot indemnify gross inactivity.

It is indeed most fortunate that the Australian IWS has shared its intruder summaries with the IWS of sympathetic nations. These nations have been able to use our intruder data to alert them to intruders and also to confirm their own reports. These nations include USA, UK and New Zealand.

The increasingly blatant use of the exclusive amateur frequencies for non-amateur traffic is most troublesome. The worst offenders are the Chinese Peoples Republic and the USSR. Prompted by this increased intruder activity, the IWS is developing a new determination. It is hoped that recent minor responses from the DOC and the Government will result in meaningful action. This would make it unnecessary for amateurs to open their own direct line of communication with foreign governments. Ineffective represenation at this level by our own authorities could ultimately force amateurs to represent themselves overseas.

The IWS can no longer tolerate inaction on quality reports. It is obvious that such an attitude would strain considerably the relationship with DOC, but the IWS must take a courageous stand. DOC is the servant, not the master.

Because of the self-regulatory nature of the amateur service, it is not unreasonable for amateurs to take responsibility for intruder alerting. DOC is apparently not involved in this on our behalf, and readily accepts the role of the IWS. Given that the IWS knows about Government inactivity to date, and that it is a dedicated service, it is obvious that initiatives will continue to be made to ensure success.

There seems no indication of co-operation between our Government and those of other sympathetic nations. Co-operation such as this could assist the IW cause. I for one am looking forward to evidence of a reasonable degree of activity by all concerned in the elimination of intruders from the amateur bands.

Robert McKernan VK4LG. ■

RADIO AMATEURS GROUP VK3APU
The Editor,
Dear Siri,
This extract is from Radio Communication, March 1981, RSGB magazine.

The International Year of Disabled People is to be acknowledged by the amateur radio fraternity with an "INTERNATIONAL WEEKEND ON AIR FOR THE DISABLED" from the 1st to 3rd August, 1981. It is hoped that disabled operators all over the world will contact each other and exchange greetings and QSL cards. It is suggested that stations should call CQ IYDP from their station(s). The date has been chosen to coincide with the opening of the international meeting of the Devon Sports Association for Disabled Persons at St. Loye's College for Training the Disabled for Commerce and Industry, Exeter, Devon. The Exeter Amateur Radio Society will operate stations from St. Loye's College over this weekend on all amateur frequencies from 3.5 to 28 MHz; VHF and UHF between 0900 and 2000 hrs. GMT using the call signs GB2IYD and GB8IYD.

Further details may be obtained from G. Draper, 1 Carlyon Close, Exeter, Devon. The Radio Amateur Group VK3APU will participate in this activity; it is hoped that all our volunteer/supporters (able bodied) amateurs will be on air to promote "AMATEUR RADIO FOR THE DISABLED".

73. Lindsay S. Dykes,
Activities/Information Manager. ■

Lot 6, Mooloolah Road,
Mooloolah, Qld. 4553

The Editor,
Dear Sir,
Having been a member of WIA and being an avid reader of AR each month for a while now, I would like to express some points of view through your columns if I may:

Firstly, I wonder if other amateurs have wondered, as I have, at the very poor reproduction evident on radio of interviews and news stories carried out in a mobile situation, that is away from the station itself. I am amazed that such poor quality audio is still with us when we think of the state of the art. I cannot help thinking that either very poor quality mobile equipment is used, or the operator is too lazy to operate it correctly.

Also I read with amusement the many and varied comments, arguments, beliefs, etc., that are expressed in "Letters to the Editor", and can only think that it is all to the good for amateur radio, because no matter how stupid or ridiculous the ideas propounded may be, they at least get some bods thinking often enough to write to your columns. And any activity is good for the hobby I reckon.

Regarding so-called bad manners of amateurs I can only say that after two years or so of operation I have received nothing but courtesy or help from others, so one can only speak as one finds, but we must remember that bad manners to one person may well be the norm for the other, as we all have different standards. For instance, do you open the passenger's door for your wife every time she enters or exits your car? Well there are a lot of men in this world who consider this mandatory and to not do so is the height of bad manners; check your own habits out and maybe you won't be so quick to jump on somebody for an imagined "wrong thing to do" situation next time round.

From my QTH here for the last three months I have found 10 metres very good most evenings from around 6 p.m. until 11 p.m. Also 15 metres has been quite good. I cannot comment on 80 metres very much because every time I put up a dipole it falls down on me or breaks or something, so there we are.

I would like to commend the persons responsible for the compiling of AR. It is almost always full of interesting articles and, most importantly, it caters for all amateurs in a clear and easy to read fashion, and I sincerely hope that they are able to keep to the high standards that have been in the past.

Yours sincerely,
Don Houston VK4NBQ (formerly VK7NLH). ■

26th April, 1981

The Editor,
Dear Sir,
Re the new bands, it will be interesting to see if my 80 metre dipole will load up on all three — 10, 18 and 24. This is due to the fact that these new bands will cause the 80 metre dipole to resonate approximately as 3, 5 and 7 half waves.

I may not need any new aerials at all.

J. Kitchin VK6TUP. ■

Sandringham
20th May, 1981

The Editor,
Dear Sir,
I am preparing to move to Saudi Arabia. You probably know that it is very difficult for foreigners to get a licence there, but I hope to be on the air from the MARS station at Dhahran. Visited Saudi last month and some friends were very interested in our Youth Radio Club Scheme as they are short of technically trained nations. Will try to get a YRCS going there and help amateur radio in Hz.

If you have space could you run this letter in AR so I can say 73 to my friends in VK? Will keep an ear out for them from HZ1AB.

Best wishes,
Leo Powning VK3BSX (ex VK5ALP). ■

PO Box 69, Springwood, NSW 2777
16th June, 1981

The Editor,
Dear Sir,
The telecommunications dispute in June brought about chaos experienced by all Australians. In the midst of it all amateur radio operators sought to provide a service to the community; WICEN was activated by some, whilst others participated in the passing of third party traffic. Clearly all concerned wanted to lend a helping hand and, amongst other things, to help allay anxiety and distress experienced when families and friends are isolated not only by great distances but by lost communications.

Tonight I tuned to the Third Party Traffic Net on 80 metres to find a large number of operators (throughout Australia) participating in what each obviously believed to be a worthwhile effort. True, it could be said of many of the messages that they were not of monumental importance, but quite a few carried messages of hope or good cheer as well as advising of serious illness and mishaps which had befallen people. I was disgusted to find that the activities of the group were severely hampered by illegal and malicious interference

from unidentified sources intent on creating chaos and havoc during the ninety minutes at least whilst I listened.

This interference obviously could only be caused by either licensed operators or pirate intruders. Because of the varied and often quite sophisticated means used to blot out legitimate transmissions I share the view expressed by others that this interference most likely was caused by amateurs. All that was lacking was vulgar profanity and obscenity, and this lends support to my belief that it was one or more of our own brethren whose basic instincts prevented him or them from resorting to such a final and absolute degradation of the frequency. Notwithstanding, a very savage blow was struck against amateur radio in VK-land and we must all have been made to appear as something less than gentlemanly to any overseas operators or shotwave listeners.

I am aware that the legalising of third party traffic procedures has brought with it a degree of disapproval from some who feel that it is no part of the amateur service. Those of that mind are entitled to express that view, just as those who participate in these nets are entitled to do so as a legitimate exercise of their operating rights. After tonight's disgusting performance I would hope that even the most ardent opponents of this innovation will join in condemning those responsible for this frequency anarchy and that there will be a united effort to detect the offender(s), who should not be spared and who should be dealt with appropriately by the authorities as being undeserving of licence privileges.

It is my understanding that third party traffic activity overseas has long been favoured. The ARRL in its origins expressed a desire to perform such a community service. Here in Australia the plain and simple fact is that such an activity is now proper, albeit innovative and in its infancy. On the other hand those who act in such a moronic fashion as to shamefully interfere with any legitimate transmission are behaving not only illegally, but in a most reprehensible fashion.

Australia is now awakening from the nightmare of chaos caused by equally irresponsible persons (fortunately in the minority) who misbehaved similarly on the Citizens Radio Service frequency. The distinction between amateur radio and Citizen Radio Services is far from clear in the minds of the community. The beneficial effects of passing third party messages, particularly in times of communication breakdowns, should never be underestimated or denigrated. What harm can it do when properly conducted?

As individuals we are each entitled to our own opinions. We are neither forced nor obliged to espouse the new traffic procedures. If we disapprove we may move to another frequency. If persons of good intent behave in a responsible and approved fashion to provide a helping hand to others they should be allowed to operate unhindered by malcontents.

Let us give way to our basic Australian instinct and give the Third Party Traffic Net a fair go.

73. John Dunn VK2VJD. ■

22/6/81

The Editor,
Dear Sir,

TELECOM STRIKE — PROPOSED PHONE PATCHING

In relation to amateur activity during the recent Telecom phone strike, I would like to congratulate the amateurs who took part in handling messages, etc., for the general public, people who would normally have not come into contact with amateur radio.

To attract more members to the amateur ranks and effectively be useful during such a strike I believe gave an excellent boost to the amateur image in the community. I may be wrong but I think this type of active community aid creates much goodwill and a more professional attitude to this aspect of amateur radio as a hobby.

I would also like to thank the Department of Communications and WIA for allowing amateurs to pass third party traffic.

However, I, and many others, would be very interested to hear what the main objections to amateurs using either **on line** or **audio coupled** phone patch facilities during an emergency or similar Telecom strike in the future.

I am rather disappointed that DOC has not approved this type of activity which is allowed in many other countries. Even if it meant obtaining a special licence classification, qualifying licence held period, and/or DOC endorsement, inspection and confinement to certain frequencies only. It would certainly be advantageous to allow those amateurs with an interest in aiding the general public to perform such a service.

Agreed that many arguments could be put forward against this type of activity, but I sincerely believe the overall advantages of goodwill and enormous public relations with media and general public would be a great bonus for the amateur ranks.

When Cyclone Tracy hit Darwin and the amateur frequencies were used for some time to handle messages/traffic almost exclusively, I could not believe that this fact was not presented to the public in a much more wider media and amateur radio promotion campaign, as a great public service.

Most amateurs knew this fact but few of the general public were aware. It is OK to preach to the converted, but to gain new amateurs much goodwill will create public interest in amateur radio. I believe it is almost essential to the overall growth of amateurs and the survival of this hobby, in addition to keeping our frequencies in this countr.

I would be very interested to know what are DOC and WIA's latest thoughts and/or developments (?) regarding **on line** or **audio coupled** phone patching by amateurs.

It would be interesting to hear from other amateurs with their thoughts and ideas for gaining Australia-wide approval.

Sincerely,
James Goodger VK2JO, QTHR. ■

58 Prospect Terrace, St. Lucia 4067
28th June, 1981

The Editor,
Dear Sir,

Tonight, after a customary enquiry as to whether the frequency was in use, and a wait, I called CQ only to be greeted with a rather rude "Go away whoever you are, this frequency is in use by a group in contact with a G". A discussion then ensued about the "intruder" who was described as "unwell".

Yes, I do happen to have a speech impediment and it does require some slight concentration from the listener to read me. I happen to have cerebral palsy (spastic), not that it bothers me too much. I have generally found amateurs most understanding and gentlemanly. However, we do apparently have a few around on the band who are intolerant of anyone who does not speak as finely and as clearly as they themselves do.

In the International Year of the Disabled one should hope that some of its message would get through the QRM. I write this not so much to vent my own spleen, but in the hope that the message of IYDP might be aided by drawing attention to examples of lack of thought by otherwise, I am sure, worthy gentlement amateurs.

L. R. Newsome, B.Sc., Ph. D., VK4LR. ■

EMC

(ELECTROMAGNETIC COMPATIBILITY)

If radio frequency interference is causing you a problem you are reminded that — "Advice on all types and aspects of interference (PLI, TVI, AFI, etc.) is available from the National EMC Advisory Service".

FORWARD DETAILS TO VK3QQ,

Federal EMC Co-ordinator, QTHR.

TECHNICAL CORRESPONDENCE

R. D. Champness VK3UG
31 Helms Court, Benalla,
Victoria 3672
11/5/81

The Editor,
Dear Sir,

I read with interest Ian Hunts's (VK5QX) comments (December 1980) on my article (August 1980) on antennas, such as the popular 5/8 wavelength 2 metre unit. I agree in general with Ian's dissertation on the ideal method of testing antennas for gain and radiation pattern, and I would like to have such facilities to be able to test antennas. One point I did not make clear concerned the tilting of the various antennas to determine, at least in my mind, and many others, that the 5/8th wavelength antenna had a radiation peak at about 30 degrees above the horizon. All the other antennas were tested in the same way, the whole attenna and ground plane structure was tilted, keeping the feed point of each antenna the same distance from the remote antenna. I was well aware that my antenna testing "range" was far from perfect and to overcome this problem I did in fact conduct three tests in different environments to overcome as nearly as possible the variables likely to occur in a less than perfect testing environment. These facts were produced in the article.

The testing of the alteration of the radiation pattern of a mobile antenna that bends back with speed is not as hard as Ian believes and can be reasonably accomplished by tying thin nylon fishing line to the tip of the antenna and maybe at other sections of the antenna and pulling it back with the lines horizontal to get the correct amount of bend in the antenna. Certainly some of this would have to be a bit cut and try to get the correct bend to correspond to any particular speed. An occupant of a car running paralell to the test car could photograph the antenna on the car and when it is stationary on the test range the antenna could be manipulated to produce the same degree of bend for any particular speed as evidenced by the photographs. However, I don't have the time at the moment to conduct tests on the radiation pattern changes with bending of vehicle mounted antennas. I don't believe that my comments are contradictory as Ian suggests that they might be.

I would suggest that anyone who has read my article should also read both references I mentioned, F. C. Judd G2BCX, who wrote in "Practical Wireless" for April 1978 about the "Slim Jim", and has a large number of other antenna articles to his credit, and "The Amateur Radio Vertical Antenna Handbook" by Captain Paul Lee K6TS (published by Cowan, a "CQ" Technical Series).

I agree with Ian that antennas and getting the best out of them is in many cases a case of SIAS, or Suck It and See, which is precisely why I conducted the tests. I had been a great believer in the 5/8th and wondered why it didn't do all that the glowing articles on it said it should. There are many people experimenting with antennas but few ever bother to present their findings for others, which is most disappointing. I hate re-inventing the wheel. Incidentally radar absorbency material is ideal material to coat aircraft and missiles with so they can't be tracked by radar.

Yours faithfully,
Rodney Champness. ■

QSP

24th JOTA 1981

The dates are 17th/18th October, 1981, starting 00.01h local tiem on Saturday 17th, terminating 23.59h local time on Sunday 18th. Each station is free to select its own time and periods for operation. Official World Scout frequencies are (3740), 7090, 14290, 21360 and 28990 kHz. ■

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SILENT KEYS

It is with deep regret that we record the passing of —

Mr. J. L. O'CONNOR	VK5JQ
Mr. B. A. V. ELLIOTT	VK5AVE
Mr. J. W. YOUNG	VK4JY
Mr. T. R. BRYCE	VK4ZN
Mr. H. A. REID	VK3RH

OBITUARIES

JACK YOUNG **VK4JY**

Coorparoo, Brisbane.

Jack was active on the air on the HF bands over 50 years. Since his retirement, Jack operated his gear almost every day when health permitted.

He had been a member of the WIA since the war, although ill-health prevented him from attending meetings.

Jack joined the Silent Keys on 4th March, 1981. He will be remembered with affection by all his friends on the air.

Sympathy is extended to his wife and family.

Royce Hazlett VK4ZRH. ■

JOHN O'CONNOR **VK5JQ**

Amateur Radio is the poorer by losing one of its well known and respected members, a man known for his helpful and friendly advice to newcomers and perhaps even better known for his ability to fabricate the most incredible yet highly successful circuitry, one of the last of the real "home-brew" specialists. Such a person was John O'Connor of Ridgehaven, South Australia, VK5JQ, or as he so often used his own phonetics, "VK5 Juicy Quinces". Operators on most bands have heard his cheery call, particularly on 160 metres; it was on this band that John was a master at using low power, at times mere milliwatts, but his attention to getting the utmost efficiency from his antenna systems was the perfect example of a dedicated amateur of "the old school"; for the greater part of his operating, VHF and 160 metres were his main interests.

Becoming interested in amateur radio at an early age, John graduated from "Mod Oscillators" and "Super-regens" through to the latest modes, only in more recent years did he acquire a "Black box".

His "home-brew" copy of a very famous transceiver stood him in good stead, it was not inferior to modern equipment, a tribute to his very thorough construction and ability to get maximum results with a minimum of outlay, and with less gimmickry.

That solidly modulated signal from VK5 Juicy Quinces will be sadly missed by his very large number of friends who knew him both "on air" and personally; at 48 years of age his passing has left a gap in the amateur ranks, but he will long be remembered by those to whom he was a real friend. The numbers are legion across the land. Vale! OM.

John Button VK5ZBU.

Colin Moore VK5RO. ■

The Tamworth Amateur Radio Club

PO BOX W107, WEST TAMWORTH, NSW 2340

The Tamworth Amateur Radio Club is proud to announce the second Noel Taylor Memorial Field Day.

This year the Field Day will take place on the 12th and 13th of September. We would like to invite you to attend and enjoy the weekend. For further information please do not hesitate to contact us.

Trent Sampson,
Field Day Organiser ■

1981 SWARS 29th Convention

At Tumut, 3rd and 4th October, 1981. Hosted by Tumut and District Amateur Radio Club. Enquiries to Secretary, TADARC, 93 Lockhart Street, Adelong 2729. (069) 46 2181.

HAMADS

- Eight lines free to all WIA members. $9 per 3 cm for non-members.
- Copy in typescript please or in block letters to P.O. Box 150, Toorak, Vic. 3142.
- Repeats may be charged at full rates.
- Closing date: 1st day of the month preceding publication. Cancellations received after about 12th of the month cannot be processed.
- QTHR means address is correct as set out in the WIA 1979 Call Book.

FOR SALE

Deceased Estate: Aluminium tubing 33 ft. mast, two 18 ft. al. lengths, $90; KW-EZ antenna tuner, /20; Barlow-Wadley XCR30 Rx, $100; leader LSG-11 sig. generator, $50; D104 mic. and stand, home-brew noise bridge, G5RN antenna, etc. VK3AUC, QTHR. Ph. (03) 99 2470.

Collector's Items: BTH magnetic pick-up, red diamond crystal detector, Edison "Diamond Disc" motor, turntable and acoustic pick-up, Philips battery charger, 2-4-6V, type 1453. Offers. VK3SV, QTHR. Ph. (03) 80 2330.

VHF Equipment Sell-out: Will sell lot as bulk deal, $400, or separately as priced below — IC22S (20 channels wired into matrix), book, mic., brackets,, leads, exc. cond., $175; FTV250 transverter, hardly used, $200, ONO; Ringo ARX2 2m ant., good cond., $40; Hy-Gain 2m yagi, 5 el., good cond., $25. Arthur VK3LJ, QTHR. Ph. (053) 45 2031.

Yaesu FT-2FB 15W output 2m FM Txcvr., with 8 channels and matching Yaesu FP-2 power supply, speaker, nicad battery charger, exc. cond., with manuals, $195. VK2JO, GPO Box 5076, Sydney 2001, NSW. Ph. (02) 799 7655.

Transmitting Tubes, new and secondhand, e.g. 813s in waxed sealed cartons, 100 good tubes 75 per cent octal, 2 sets new tubes KW2000, 1 set secondhand tubes for KW, 1 set tubes for No. 122, set 1 complete AM xmitter (160m to 6m) 829B in final. VK5LC, QTHR.

Duo Bander 3 el. Yagi, 10 and 15m, plus modified Stolle rotator, $200. Jef VK2NXH, QTHR. Ph. (02) 93 4571 from 1800K. Will give an-air demo.

Yaesu FTT2 all mode 2m Txcvr., $550; Trio 9R-59DS Rx, $100; Realistic DX-160 Rx, $120; all new cond. and orig. cartons. H. Bailey VK2ZHQ, QTHR. Ph. (049) 68 1306.

7-valve Tx., incl. power supply for bands 80 to 10m, with some crystals, $45. VK5IX. Ph. (08) 271 4831.

TS520D, mint cond., just overhauled by Kenwood agent, new finals, DC/DC power supply, DG5 adaptor, plus mic., manual, spare finals, excel. performance. VK4AIF. Ph. (07) 284 9230.

Key, Hi Mound HK-702, $20; Yaesu guttermount mobile whip base, 2m stub, resonators for 80, 40, 20, the lot for $40; textbook "Introduction to Microprocessors" by Leventhal, $10; "Inegrated Circuits and Semi-conductor Devices: Theory and Application" by Deboo and Burrows, $5. VK2DET, QTHR. Ph. (042) 84 3400.

FT200 External VFO, new, unused, $75; Palomar R-X noise bridge, unused, $45; Shure 444 desk mic., $50; Heath HW32 20m monoband tx, Incl. 12V PS and mobile whip, $80; miniature GE JocketMate 2m tx, 2 chnls., nicads, $70; valves, siggen, old 6m gear, odds and sods, free to YRCS or battler. VK3BSX. Ph. (03) 598 1034.

4 el. yagi duo band 10.15m, good cond., Beta match included and ready for use, $85. Steven VK3NNH, QTHR. Ph. (03) 547 5894.

Kenwood TS8020S HF Txcvr., hand mic. and manual, extra new driver and finals, A1 cond., $740. VK7NKD, QTHR. Ph. (002) 43 8972.

Icom IC 502 6m portable SSB, good cond., sell $150 or swap IC 202, cash diff. VK6AM, 10 Julianne Street, Busselton 6280. Ph. (097) 55 4106.

Drake TR4C Txcvr., with noise blanker and spare sets of matched final tubes, RV4C remote VFO and power supply, MN4 antenna, matching network, all handbooks, exc. cond. $650, ONO. VK2ANJ. Ph. (02) 529 3409 evenings.

50 ft. Hills Wind-up Tower, unused (the two heavy bottom sections of a 75 footer with ladder on the lower section), complete with tilting base bracket, transports on a Kimbo roof rack, $275; cage for heavy duty rotator bolts to top of above tower, weight reduced, cadmium plated and fitted with new thrust bearing for 2 in. piper, unused, $50; Waiwa 7600 rotator, complete, fitted in above cage with shock mountings and pipe clamp, unused, $260; Europa B transverter, 28 to 144 m/h., exc. rx, 200W PEP input, internal aerial switching, meter, plugs into rear socket of Yaesu gear for all power, makes two metres come to life, unused spare, $190. VK3DS, Ballarat. Ph. (053) 32 3226.

Video Camera, ASCA B/W, RF and video out, 240V, 8 months old, $280, ONO; Velbon tripod, $45; both in exc. cond., used for ATV. Contact Frank VK3ZO, QTHR. Ph. (03) 478 5972 around 6.30 p.m.

Swan 350 Txcvr., with 12V power supply, PTT mic., 3 helical whips for 40m, 20m and 15m, $275. Jim VK4AJG. Ph. (075) 38 0270.

Yaesu FT-200, FP200 power supply, exc. cond., will stand any test 10-80, incl. 11m, new finals and driver, $370. Peter VK3NNK. Ph. (03) 555 4489.

Eddystone Rx EC10, 0.5 to 30 MHz, complete with handbook, single conversion solid state, mint cond., $130; Drake Rx SSR1, 0.5 to 30 MHz, complete with handbook, solid state, good order, $220. Jack VK3EB, QTHR. Ph. 82 1769.

FT-227R, good cond., $250. VK2KCS, QTHR. Ph. (02) 477 3932.

FT207R(A) Yaesu, synthesised 2m FM hand-held, 800 channels, 10 kHz steps/5 kHz switch, scanning, 4 memories, priority channel, 0.5/2.5W output, 6 months old, v.g.c., $275; TRC449, 11m, 18 channel, SSB/AM, Tandy's best mobile, Uniden 858 chip, suitable for conversion to 10m with 200-400 channels, unused, in carton, $170; Midland IW 2 channel walkie-talkie, $30. VK1ZLW. Ph. (062) 41 6046 AH, (062) 49 4597 BH.

IC215 2m FM Txcvr., as new, repeaters 2, 3, 5, 8, 40 and 49, $250; also class C power amp. 30 watts output, diode switching, $50; Multipalm II 2m FM txcvr., repeaters 2, 3, 5, 8, 40 and 50 with nicads, charger, leather case and DC lead for motor vehicle, $200. VK3BNJ. Ph. (03) 743 6708.

FT101E with YD148 desk mic., as new cond., orig. packaging and manual. no mods., $600. Brian VK3NYS. Ph. (03) 369 1649 AH.

Kenwood TS120S Txcvr., with mic., 12 months old, as new, little use, $525. VK2PCT. Ph. (02) 86 4596.

Drake R4C Sherwood Filter, full accessory crystals, T4XC 160-10m, AC4 power supply, MS4 speaker, Shure 444 mic., all exc. cond., sell complete, $1250; Drake CW filter, 250 Hz, for R4C, near new, 60; NB4 noise blanker, $45. P. Nesbit VK3APN. Ph. (03) 211 8979 AH.

Yaesu Rx FRG7, $235; txcvr. FT101B, $545; Hy-Gain antenna, 14 AVQ, $65; no mods., mint cond., manuals and orig. cartons, VK2II, QTHR. Ph. (02) 99 3993.

18AVT WB Trap Vertical Antenna, very good cond., /65; electronic research audio active filter, SL-56, SSB and CW, 12 poles, 60 dB notch filter, 12V DC or 230V AC, $45. VK3ARZ, 3 Tamar Court, Mentone 3184. Ph. (03) 93 9512.

FT101Z with fan, mic., etc., excellent order, $575; Icom IC21A 2m/FM AC/DC, with 10 ch., $150. VK3OM, QTHR. Ph. (03) 560 9215.

Entire Shack: FRG7, only few hours use, $250; bird RF power meter, 3 elements, $310; FT901DM, about 2 hours use, $1100; "Standard" 2m, trx., FM, 10W, with CPU, scan, incl. mount kit, $370; FT707, 100W, $650; AF sig, gen., Trio, $70; digital multi-meter, Hioki and Sanwa, both new, $90 and $150; big variety others; gen. enquiries only. VK3ZJB. Ph. (03) 397 6470.

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IC5510 100W 6m Txcvr., as new, in carton, with 5 el. LPY, 9 dBd gain, both 4 months old; also DX300 digital frequency readout communication rx. What offers? Alan. Ph. (047) 51 4050.

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ANDREWS COMMUNICATIONS	9
ATN ANTENNAS	43
BAIL ELECTRONICS	51
BRIGHT STAR CRYSTALS	37
CW ELECTRONICS	46
DICK SMITH	2
EMONA	10
HELRAY ENGINEERING	42
NSW DIVISION WIA	40
SCALAR INDUSTRIES	44
SIDEBAND ELECTRONIC ENGINEERING AND SALES	45
SNOWY RIVER CO.	8
VICOM PTY. LTD.	6, 7
WILKEY ANTENNA FARM	42
WILLIAM WILLIS	40
W. & G. WULF	37

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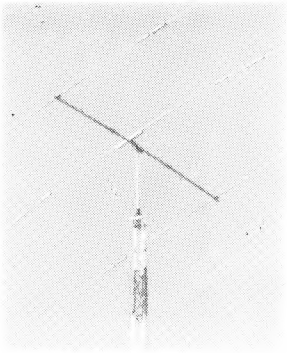

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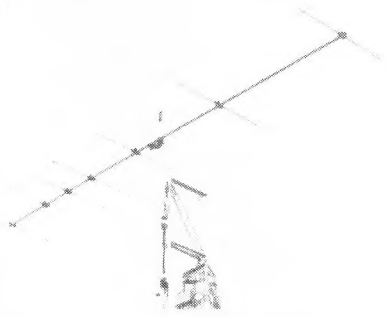

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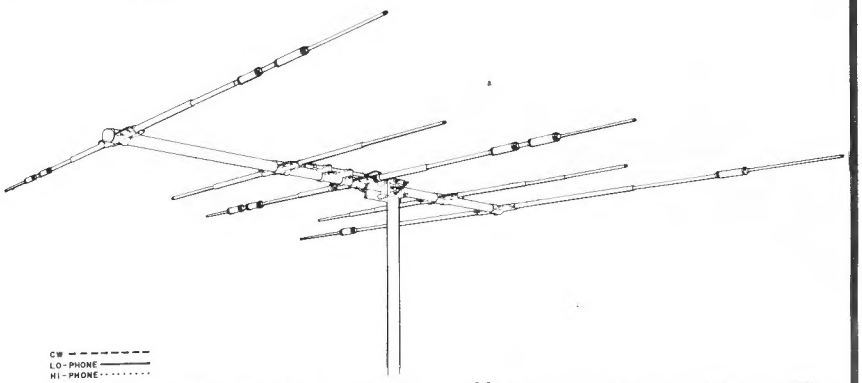

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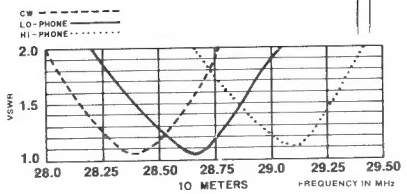

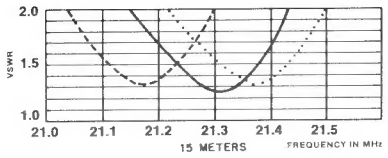

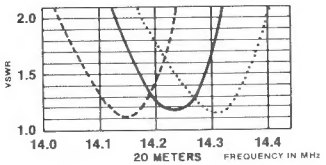

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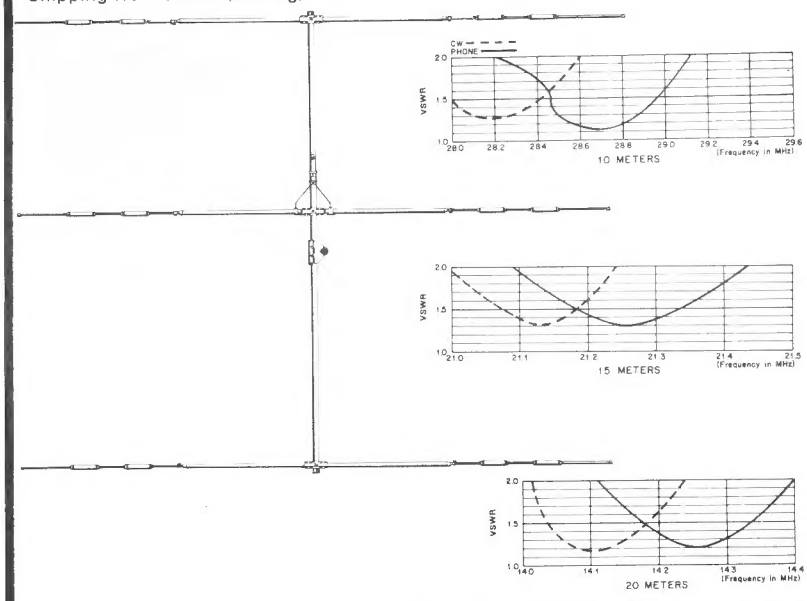

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